

ORGS UKMO Q

National Meteorological Library
FitzRoy Road, Exeter, Devon. EX1 3PB



DUPLICATE ALSO

FIFTY - NINTH QUARTERLY REPORT ON DRIFTING BUOYS IN THE NORTH ATLANTIC

By Sue Holton
October 2001

Report No 59

1st July to 30th September 2001



3 8078 0006 5424 6

Met Office, London Road, Bracknell, Berkshire, RG12 2SZ, United Kingdom
email sue.holton@metoffice.com

DISTRIBUTION LIST

Met. Office

1. D (TS)
2. Mr. R. J. Shearman, Hd (OS)
3. Miss S. North, (OS 2)
4. Mr.R.Schofield (OS 4)
5. Mr G. Smith, (OS 4)
6. Jason Turnbull (OS 4)
7. Mr.B.Oatway, Operations Manager, NMC
8. Mr.C.A.Parrett (NWP)
9. Library (2)

International.

1. Mr.T.Kvinge, Norway
2. Mr.J.Keeley, Canada
3. Mr.E.Charpentier, France
4. Mr.P.Blouch, France
5. Mr.U.Gartner, Germany
6. Mr. Giratys, Switzerland
7. Mr.V.Wagner, Germany
8. Mr.W.C.M.van Dijk, The Netherlands
9. Mr.F.Sigurdsson, Iceland
10. Mr.K.Bjorheim, Norway
11. Mr.K.Hedeegaard, Denmark
12. Mr.P.O.Harsmar, Sweden
13. Mr.M.Lubben, Germany
14. Mr.B.Richter, Germany
15. Mr.L.Golmen, Norway
16. Mr.T.Lothe, Norway

Please inform author of report of any changes to the above list

CONTENTS

1. Introduction

Summary of :-

2. General Performance
3. Pressure Performance
4. Air temperatures
5. Winds
6. Explanatory Notes
7. Mean Positions of Buoys

- | | |
|---------|---|
| Annex A | - Table of Statistics |
| Annex B | - Time-series plots of pressure |
| Annex C | - Time-series plots of air temperature |
| Annex D | - Time-series plots of wind speed |
| Annex E | - Time-series plots of wind direction |
| Annex F | - Summary table of operational drifting buoys |

15th October 2001

This report has not been published.
Permission to quote from it should be obtained from the
Head of Observations Supply Branch.

1. INTRODUCTION

Drifting buoys operated by European countries, the United States, Canada and E.G.O.S. (European Group on Ocean Stations) provide valuable meteorological data in the North Atlantic Ocean. This report is a summary of the performance of these buoys giving information on the number of buoys operating, the accuracy of reported locations and data quality, timeliness and availability. It is compiled by looking at observations received in the Met. Office Meteorological Data Base (Met.D.B.) and by comparisons of observations with background fields from the Met. Office forecast model. Additional information on buoy operations and data quality is extracted from E.G.O.S. Technical Secretariat reports.

2. GENERAL PERFORMANCE

The following few sub-sections describe the general performance of the drifting buoys throughout the quarter.

(a) Location Accuracy

57 out of 58 of the buoys reporting, gave a '% of observations with acceptable positions' greater than 95% (61 out of 64 last quarter).

(b) Data timeliness

(see note 9 of section 6 for definition of terms.)

Timeliness	Last quarter.	This quarter
Very Good	22	15
Good	34	34
Satisfactory	4	6
Poor	1	1
Very poor	3	2
Total no. of buoys	64	58

(c) Data availability

(see note 9 of section 6 for definition of terms.)

Availability	South of 50 deg N		North of 50 deg N	
	Previous Quarter	Present Quarter	Previous Quarter	Present Quarter
Very Good	3	7	11	13
Good	19	15	8	7
Satisfactory	11	9	3	2
Poor	7	5	1	0
Very Poor	0	0	0	0

The total number of buoy days in the quarter was 4282 [obtained by summing the number of reporting days for each buoy] (last quarter the total was 4717) and the number of 'buoy hours' with at least one observation was 88575 (compared with 97033 last quarter). Thus, the mean number of hours per day, for days with at least one observation (averaged over all buoys operating in the area) was 20.69 (last quarter the figure was 20.57).

3. SUMMARY OF PRESSURE PERFORMANCE

(a) Buoy deployments, etc.

North of 50deg N

There were 19 buoys reporting pressure at the beginning of the period. 18 buoys were operating at the end of the period.

3 buoys were deployed during the period (44726, 64549 and 64550). 4 buoys ceased reporting pressure (44610, 44725, 44770 and 65663).

South of 50deg N

There were 28 buoys reporting pressure at the beginning of the period. 30 buoys were reporting at the end of the period.

8 buoys were deployed during the period (41647, 41652, 44627, 44723, 62512, 62516, 62518, and 62519).

6 buoys ceased reporting pressure (41571, 44611, 44620, 44762, 44774 and 62564).

(b) Data Quality - Pressure

Revised RMS Differences

The technique used to assess the quality of pressure data in this report is based on the Revised RMS differences between the observations and the background field from the Global Forecast Model (see note 8 in Explanatory Notes). For buoys south of 50°N the Revised RMS differences should be less than (or equal to) 2.0 hPa and for buoys north of 50°N they should be below (or equal to) 3.0 hPa. The buoys whose revised RMS differences were found to lie outside these limits have had their performances described as 'suspect' and are included in the section below. Examination of the time-series plots (see Annex B) indicates the performances of these buoys for which there was only one this quarter) :-

41505 - Data from this buoy showed a negative bias throughout the period,

Biases

9 buoys (excluding those mentioned in the previous section) showed pressure biases greater than 0.5 hPa (pressure biases are determined using the mean value for unflagged data from Annex A). Those buoys whose pressure data showed a bias of greater than 0.5 hPa have had their performance described as 'suspect'.

WMO No.	Buoy bias (hPa)	Period of reports
41639	1.3	01/07 – 30/09
44546	-0.9	01/07 – 30/09
44550	-0.7	01/07 – 30/09
44611	0.7	01/07 – 13/08
44627	-0.8	05/07 – 30/09
44725	1.3	01/07 – 02/09
62512	-0.9	11/09 – 30/09
65581	-0.7	01/07 – 30/09
65663	-0.7	01/07 – 13/09

Summary of Pressure Performance

Pressure Summary	Last Quarter	This Quarter
Acceptable	46	48
Suspect – RMS	4	9
Suspect – Bias	14	1
Total no. of buoys	64	58

4) Air Temperatures

The following table shows the mean and standard deviation of observation minus background differences for air temperatures.

(Note : The calculations below exclude the majority of gross errors. However, gross errors within ± 20 °C of the background value are included. Therefore, in some instances, the figures may be slightly misleading.)

Air Temperature				Air Temperature			
WMO No.	Mean	St.Dev	No. of Obs	WMO No.	Mean	St. Dev	No. of Obs
44613	0.83	0.56	2122	44765	0.55	1.86	1811
44774	0.39	1.04	610	64549	0.45	1.25	2156
64550	0.07	1.47	2385	65516	0.31	1.26	3875
65581	0.40	1.13	2453	65595	0.68	1.12	3589
65602	0.47	1.08	4963	65662	0.53	1.31	4562
65663	0.69	1.37	2514				

Summary

There was no significant **air temperature** bias or significant standard deviations for the quarter.

(5) Winds

The following table shows the mean and standard deviation of observation minus background differences for wind speed and direction.

Wind Speed (kt)				Wind Direction (deg)		
WMO No.	Mean	St. Dev.	No. of Obs	Mean	St. Dev.	No. of Obs
41629	2.82	8.52	315	-37.15	44.20	298
41647	0.78	4.17	1204	18.86	37.19	1031
41652	-0.69	3.28	1111	-8.52	26.83	922
62504	0.48	3.63	1045	5.00	31.63	967

Summary

Buoy 41629 (2.82) showed a significant **wind speed** bias and also a significant standard deviation (8.52).

Both buoys 41629 (-37.15) and 41647 (18.86) showed a significant **wind direction** bias.

6. EXPLANATORY NOTES:

1. Buoy owners are as follows,

CA	- Canada	P	- Portugal
F	- France	UK	- United Kingdom
D	- Germany	US	- United States
N	- Norway	IC	- Iceland
NL	- Netherlands	EG	- EGOS
IR	- Ireland		

2. Number of observations received is the number received at Bracknell in the Meteorological Data Base (Met.DB). If identical reports are received which have originated at different Collecting Centres, the earliest one received at Bracknell is stored in the Met.DB.

3. An observation with valid Time and Date is one that contains no coding errors in the Date/Time group.

4. An acceptable position for an observation is within a distance d of the last acceptable position where $d=vt$ and,

v = maximum drift speed = 1/4 knot
 t = time between observations.

5. The percentage of elements present is calculated from the total number of observations received.

6. The delay is (Time of Receipt at Bracknell) - (Time of Observation).

7. The mean number of observations per day is calculated from the total number of observations received divided by the number of days in the period. It therefore includes 'quasi-identical' observations, i.e. those made within a few minutes of one another. For this reason the mean number of hours per day with at least one observation and the % of hour periods without an observation has been included, where an 'hour period' is defined as the period from HH-30 to HH+29 minutes.

8. Mean (OB-BG) is the mean value of (Observation-Background) Pressure, where the Background is the 6-hour forecast from the Global Forecast Model. RMS (OB-BG) is the Root Mean Square value of (Observation- Background) Pressure differences.

Unflagged data are those data used in model analyses.

Flagged data (i.e. unused observations) are those observations of suspect quality and all observations reported by a buoy at a frequency greater than 5 times every 6 hours, with accepted observations being at least one hour apart. Thus, those buoys which report most frequently have a higher percentage of flagged data.

The Mean calculated over Unflagged Data gives an indication of the instrument bias, since any gross errors have been excluded from the calculation.

The Revised RMS is based on all data except for the few that contain gross errors (as indicated on the time-series graphs - see Annex B).

9. The performance categories are defined in the table below.

Performance	Availability (mean no. of obs/day)	Timeliness (median delay in mins)
Very Good	> 35	< 60
Good	25 - 35	60 - 119
Satisfactory	15 - 24	120 - 179
Poor	5 - 14	180 - 239
Very Poor	< 5	> 240

(N.B. WMO requirements state the need for only 4 observations per day from marine stations.)

The pressure quality is assessed from the Revised RMS and the Mean for unflagged data).

Performance	Pressure Quality (in hPa)			
	North of 50 degN		South of 50 degN	
	RMS	MEAN	RMS	MEAN
Acceptable	≤ 3.0	≤ 0.5	≤ 2.0	≤ 0.5
Suspect	> 3.0	> 0.5	> 2.0	> 0.5

60 N

45 N

30 N

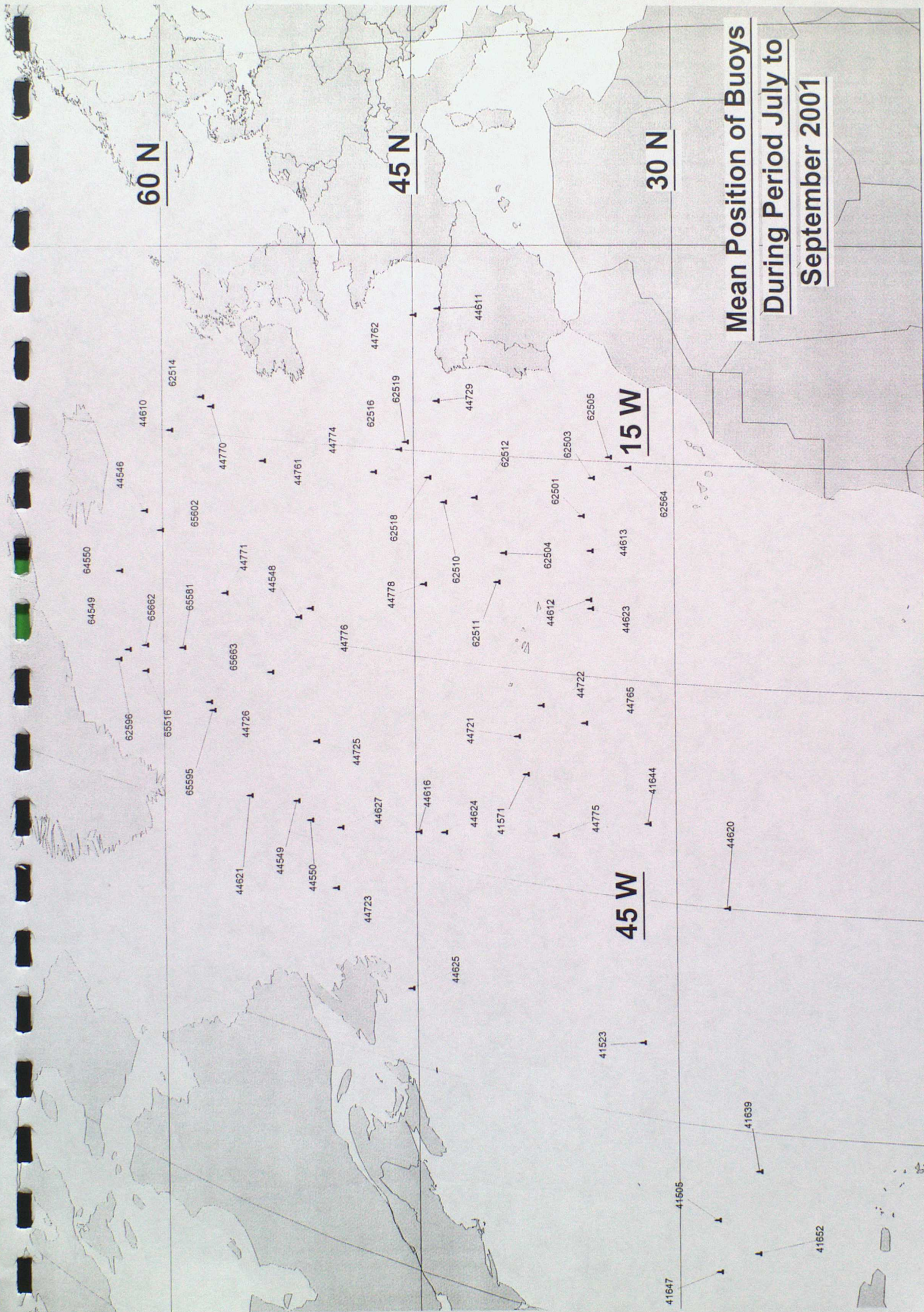
Mean Position of Buoys

During Period July to

September 2001

15 W

45 W



Annex A - TABLE OF STATISTICS

WMO No./Country	41505/UK	41523/UK	41571/UK
Argos Id No.	26968	28840	18905
Period Within Area	01/07 - 30/09	01/07 - 30/09	01/07 - 15/07
Mean Latitude	27.8	32.0	38.6
Mean Longitude	-66.3	-54.9	-37.4
No. of Obs Received	777	1176	221
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	71.8	93.5	99.1
P. Tendency	0.0	0.0	0.0
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	85.1	93.7	82.4
Median delay (min)	34	36	156.5
Number of days	92	92	15
Mean No. of obs/day	8.4	12.8	14.7
No. of Hours with obs	700	858	219
Mean no. of hours/day with obs	7.6	9.3	14.6
% of hour periods without an ob	68.2	61.1	38.8
Mean (Ob-Bg)	-3.3	-0.1	-0.2
RMS (Ob-Bg)	3.5	0.5	0.5
unflagged data			
Mean (Ob-Bg)	-3.1	-0.1	-0.2
RMS (Ob-Bg)	3.4	0.5	0.5
all data			
Revised RMS (Ob-Bg)	3.4	0.5	0.5
% of data flagged	51	27	1
Operating at end of period	YES	YES	NO
Performance			
Availability	Poor	Poor	Poor
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Acceptable
Comments			

Annex A - cont'd

WMO No./Country	41639/US	41644/US	41647/US
Argos Id No.	28846	28853	16325
Period Within Area	01/07 - 30/09	01/07 - 30/09	02/08 - 30/09
Mean Latitude	25.4	31.6	27.7
Mean Longitude	-62.6	-39.8	-69.8
No. of Obs Received	674	1278	1359
% of obs with Acceptable Position	100.0	100.0	100.0
% of Present Pressure	96.9	89.7	94.3
P. Tendency	0.0	0.0	93.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	54.0/ 65.7	0.0/ 0.0	94.0/ 93.6
Sea-Surface Temp.	97.8	87.5	94.1
Median delay (min)	76	39	117
Number of days	92	92	60
Mean No. of obs/day	7.3	13.9	22.6
No. of Hours with obs	669	854	1332
Mean no. of hours/day with obs	7.3	9.3	22.2
% of hour periods without an ob	69.6	61.3	6.6
Mean (Ob-Bg)	1.3	0.1	0.4
RMS (Ob-Bg)	1.5	0.6	0.8
unflagged data			
Mean (Ob-Bg)	1.3	0.1	0.4
RMS (Ob-Bg)	1.5	0.9	1.3
all data			
Revised RMS (Ob-Bg)	1.5	0.7	0.8
% of data flagged	0	33	1
Operating at end of period	YES	YES	YES
Performance			
Availability	Poor	Poor	Acceptable
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Good	Very Good	Good
Comments			

Annex A - cont'd

WMO No./Country	41652/US	44546/UK	44548/UK
Argos Id No.	12999	25374	27617
Period Within Area	04/08 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	25.5	61.2	51.9
Mean Longitude	-68.2	-21.9	-28.4
No. of Obs Received	1274	3048	2190
% of obs with Acceptable Position	99.8	99.5	99.5
% of Present Pressure	92.6	89.6	86.1
P. Tendency	92.5	89.6	86.1
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	92.7/ 92.4	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	92.7	89.7	86.2
Median delay (min)	124	55	122
Number of days	58	92	92
Mean No. of obs/day	22.0	33.1	23.8
No. of Hours with obs	1246	2198	2032
Mean no. of hours/day with obs	21.5	23.9	22.1
% of hour periods without an ob	10.3	0.5	7.9
Mean (Ob-Bg)	0.4	-0.9	-0.3
RMS (Ob-Bg) unflagged data	0.7	1.1	1.0
Mean (Ob-Bg)	0.4	-0.8	-0.2
RMS (Ob-Bg) all data	0.7	1.1	1.1
Revised RMS (Ob-Bg)	0.7	1.1	1.1
% of data flagged	1	26	5
Operating at end of period	YES	YES	YES
Performance			
Availability	Acceptable	Good	Acceptable
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Acceptable	Very Good	Acceptable
Comments			

Annex A - cont'd

WMO No./Country	44549/UK	44550/UK	44610/F
Argos Id No.	22648	23703	12734
Period Within Area	01/07 - 30/09	01/07 - 30/09	01/07 - 12/08
Mean Latitude	52.1	51.3	59.6
Mean Longitude	-42.5	-43.7	-15.0
No. of Obs Received	3524	2694	3119
% of obs with Acceptable Position	99.7	99.5	100.0
% of Present			
Pressure	94.0	92.1	41.5
P. Tendency	93.8	91.7	39.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	93.8	92.0	40.9
Median delay (min)	93	74	150
Number of days	92	92	43
Mean No. of obs/day	38.3	29.3	72.5
No. of Hours with obs	2202	2201	941
Mean no. of hours/day with obs	23.9	23.9	21.9
% of hour periods without an ob	0.3	0.3	8.0
Mean (Ob-Bg)	-0.2	-0.7	-0.2
RMS (Ob-Bg) unflagged data	0.9	1.1	0.7
Mean (Ob-Bg)	-0.3	-0.7	-0.2
RMS (Ob-Bg) all data	1.0	1.3	1.7
Revised RMS (Ob-Bg)	1.0	1.2	0.7
% of data flagged	35	16	96
Operating at end of period	YES	YES	NO
Performance			
Availability	Very Good	Good	Very Good
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Good	Good	Acceptable
Comments			

Annex A - cont'd

WMO No./Country	44611/UK	44612/UK	44613/UK
Argos Id No.	27616	27619	28467
Period Within Area	01/07 - 13/08	01/07 - 30/09	01/07 - 30/09
Mean Latitude	43.6	34.9	34.8
Mean Longitude	-4.6	-24.7	-21.3
No. of Obs Received	1062	2455	2271
% of obs with Acceptable Position	100.0	99.1	100.0
% of Present Pressure	86.1	93.6	96.5
P. Tendency	85.1	93.7	92.1
Air Temperature	0.0	0.0	95.8
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	85.2	93.6	0.0
Median delay (min)	93	92	58
Number of days	44	92	92
Mean No. of obs/day	24.1	26.7	24.7
No. of Hours with obs	1007	2197	1664
Mean no. of hours/day with obs	22.9	23.9	18.1
% of hour periods without an ob	3.2	0.5	24.6
Mean (Ob-Bg)	0.7	-0.1	0.3
RMS (Ob-Bg) unflagged data	1.0	0.5	0.6
Mean (Ob-Bg)	0.7	-0.2	0.3
RMS (Ob-Bg) all data	1.0	0.5	0.6
Revised RMS (Ob-Bg)	1.0	0.5	0.6
% of data flagged	1	9	38
Operating at end of period	NO	YES	YES
Performance Availability	Acceptable	Good	Acceptable
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Good	Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	44616/UK	44620/UK	44621/UK
Argos Id No.	17149	27622	17150
Period Within Area	01/07 - 30/09	01/07 - 13/09	01/07 - 30/09
Mean Latitude	44.9	27.1	54.9
Mean Longitude	-42.8	-45.0	-43.0
No. of Obs Received	3062	1813	3285
% of obs with Acceptable Position	99.7	100.0	99.8
% of Present Pressure	93.4	96.4	94.1
P. Tendency	93.1	96.1	93.9
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	93.3	96.4	94.0
Median delay (min)	90	100.5	77
Number of days	92	75	92
Mean No. of obs/day	33.3	24.2	35.7
No. of Hours with obs	2196	1775	2203
Mean no. of hours/day with obs	23.9	23.7	23.9
% of hour periods without an ob	0.5	0.8	0.2
Mean (Ob-Bg)	0.2	-0.2	-0.1
RMS (Ob-Bg) unflagged data	0.8	0.5	0.8
Mean (Ob-Bg)	0.2	-0.2	-0.1
RMS (Ob-Bg) all data	1.2	0.5	0.8
Revised RMS (Ob-Bg)	1.0	0.5	0.8
% of data flagged	26	1	32
Operating at end of period	YES	NO	YES
Performance			
Availability	Good	Acceptable	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44623/UK	44624/UK	44625/UK
Argos Id No.	27624	17151	17153
Period Within Area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	34.8	43.4	45.4
Mean Longitude	-25.3	-42.5	-54.4
No. of Obs Received	2346	2313	2678
% of obs with Acceptable Position	100.0	100.0	99.3
% of Present Pressure	91.9	92.6	94.9
P. Tendency	91.5	92.2	94.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	91.8	92.3	95.0
Median delay (min)	101	83	71
Number of days	92	92	92
Mean No. of obs/day	25.5	25.1	29.1
No. of Hours with obs	2197	2195	2202
Mean no. of hours/day with obs	23.9	23.9	23.9
% of hour periods without an ob	0.5	0.6	0.3
Mean (Ob-Bg)	0.2	-0.2	-0.4
RMS (Ob-Bg) unflagged data	0.6	0.7	1.0
Mean (Ob-Bg)	0.2	-0.2	-0.4
RMS (Ob-Bg) all data	0.6	0.8	1.0
Revised RMS (Ob-Bg)	0.6	0.8	1.1
% of data flagged	4	2	17
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44627/NL	44721/UK	44722/UK
Argos Id No.	13698	18702	18706
Period Within Area	05/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	49.5	39.1	37.7
Mean Longitude	-43.7	-34.8	-32.4
No. of Obs Received	2292	3232	2619
% of obs with Acceptable Position	99.8	99.3	99.0
% of Present Pressure	93.5	93.1	93.1
P. Tendency	93.2	93.0	93.0
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	93.4	93.1	82.3
Median delay (min)	94	104	90
Number of days	88	92	92
Mean No. of obs/day	26.0	35.1	28.5
No. of Hours with obs	2019	2200	2194
Mean no. of hours/day with obs	22.9	23.9	23.8
% of hour periods without an ob	4.2	0.4	0.6
Mean (Ob-Bg)	-0.8	0.0	-0.3
RMS (Ob-Bg) unflagged data	1.1	0.7	0.7
Mean (Ob-Bg)	-0.8	0.0	-0.6
RMS (Ob-Bg) all data	1.5	0.7	6.4
Revised RMS (Ob-Bg)	1.2	0.7	0.8
% of data flagged	11	31	14
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Very Good	Good
Pressure Quality	Suspect	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44723	44725/UK	44726
Argos Id No.	?	27923	?
Period Within Area	11/09 - 30/09	01/07 - 02/09	10/09 - 30/09
Mean Latitude	49.8	50.9	57.3
Mean Longitude	-48.3	-37.6	-36.4
No. of Obs Received	702	1387	778
% of obs with Acceptable Position	99.0	99.6	98.6
% of Present Pressure	95.6	55.8	92.7
P. Tendency	95.4	55.4	92.5
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	95.4	74.3	92.4
Median delay (min)	66	136	68
Number of days	20	64	21
Mean No. of obs/day	35.1	21.7	37.0
No. of Hours with obs	454	1326	494
Mean no. of hours/day with obs	22.7	20.7	23.5
% of hour periods without an ob	1.7	13.5	0.4
Mean (Ob-Bg)	-0.5	1.3	-0.1
RMS (Ob-Bg) unflagged data	1.4	2.1	1.1
Mean (Ob-Bg)	-0.5	2.2	-0.1
RMS (Ob-Bg) all data	1.4	4.0	1.0
Revised RMS (Ob-Bg)	1.4	4.0	1.0
% of data flagged	34	10	35
Operating at end of period	YES	NO	YES
Performance Availability Pressure Quality Timeliness	Very Good Acceptable Good	Acceptable Suspect Acceptable	Very Good Acceptable Good
Comments			

Annex A - cont'd

WMO No./Country	44729/UK	44761/UK	44762/UK
Argos Id No.	25375	27615	19073
Period Within Area	01/07 - 30/09	01/07 - 30/09	01/07 - 09/08
Mean Latitude	43.7	54.0	45.0
Mean Longitude	-11.3	-16.7	-5.1
No. of Obs Received	3457	2806	980
% of obs with Acceptable Position	99.7	99.8	100.0
% of Present Pressure	87.0	86.6	80.1
P. Tendency	86.7	86.4	79.3
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	86.9	86.3	79.2
Median delay (min)	127	76	102
Number of days	92	92	40
Mean No. of obs/day	37.6	30.5	24.5
No. of Hours with obs	2177	2194	887
Mean no. of hours/day with obs	23.7	23.8	22.2
% of hour periods without an ob	1.4	0.6	5.9
Mean (Ob-Bg)	0.5	-0.3	0.2
RMS (Ob-Bg) unflagged data	0.8	0.8	0.7
Mean (Ob-Bg)	0.5	-0.3	0.3
RMS (Ob-Bg) all data	0.8	0.8	0.7
Revised RMS (Ob-Bg)	0.8	0.8	0.7
% of data flagged	37	19	2
Operating at end of period	YES	YES	NO
Performance			
Availability	Very Good	Good	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Acceptable	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44765/UK	44770/UK	44771/UK
Argos Id No.	28466	21627	25377
Period Within Area	01/07 - 30/09	01/07 - 08/07	01/07 - 30/09
Mean Latitude	35.2	57.1	56.3
Mean Longitude	-33.3	-12.8	-27.5
No. of Obs Received	1908	540	3267
% of obs with Acceptable Position	92.3	100.0	99.7
% of Present Pressure	97.7	10.2	85.2
P. Tendency	93.9	2.2	85.2
Air Temperature	97.1	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	0.0	10.2	85.2
Median delay (min)	17	99	106
Number of days	92	8	92
Mean No. of obs/day	20.7	67.5	35.5
No. of Hours with obs	1263	171	2171
Mean no. of hours/day with obs	13.7	21.4	23.6
% of hour periods without an ob	42.7	5.5	1.7
Mean (Ob-Bg)	0.0	0.0	-0.1
RMS (Ob-Bg) unflagged data	0.8	0.5	0.8
Mean (Ob-Bg)	-0.7	-0.3	-0.1
RMS (Ob-Bg) all data	8.8	2.3	0.9
Revised RMS (Ob-Bg)	1.6	2.3	0.9
% of data flagged	42	67	33
Operating at end of period	YES	NO	YES
Performance			
Availability	Acceptable	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44774/UK	44775/UK	44776/UK
Argos Id No.	12286	25372	25371
Period Within Area	01/07 - 13/07	01/07 - 30/09	01/07 - 30/09
Mean Latitude	47.4	36.9	51.2
Mean Longitude	-16.8	-41.4	-27.6
No. of Obs Received	629	3784	2644
% of obs with Acceptable Position	98.9	99.0	99.5
% of Present Pressure	97.3	96.4	91.3
P. Tendency	93.3	96.5	91.0
Air Temperature	97.1	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	97.9	96.5	91.0
Median delay (min)	25	116	73
Number of days	13	92	92
Mean No. of obs/day	48.4	41.1	28.7
No. of Hours with obs	246	2199	2195
Mean no. of hours/day with obs	18.9	23.9	23.9
% of hour periods without an ob	19.1	0.4	0.6
Mean (Ob-Bg)	-0.1	-0.2	-0.5
RMS (Ob-Bg) unflagged data	0.7	0.6	1.0
Mean (Ob-Bg)	0.0	-0.3	-0.5
RMS (Ob-Bg) all data	1.8	1.1	1.1
Revised RMS (Ob-Bg)	1.3	0.6	1.1
% of data flagged	66	41	15
Operating at end of period	NO	YES	YES
Performance			
Availability	Very Good	Very Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	44778/UK	62501/F	62503/F
Argos Id No.	25370	7139	17926
Period Within Area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	44.5	35.3	34.7
Mean Longitude	-24.7	-18.9	-16.2
No. of Obs Received	2525	2404	3331
% of obs with Acceptable Position	99.3	99.3	98.9
% of Present Pressure	90.1	87.6	92.8
P. Tendency	90.0	87.0	92.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	90.1	87.5	92.9
Median delay (min)	88	116	116
Number of days	92	92	92
Mean No. of obs/day	27.4	26.1	36.2
No. of Hours with obs	2190	2171	2200
Mean no. of hours/day with obs	23.8	23.6	23.9
% of hour periods without an ob	0.8	1.7	0.4
Mean (Ob-Bg)	-0.1	0.4	-0.3
RMS (Ob-Bg) unflagged data	0.7	0.7	0.6
Mean (Ob-Bg)	-0.1	0.4	-0.3
RMS (Ob-Bg) all data	0.7	1.3	0.6
Revised RMS (Ob-Bg)	0.7	0.7	0.6
% of data flagged	10	6	33
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	62504/F	62505/F	62510/F
Argos Id No.	17928	17929	26748
Period Within Area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	39.8	33.7	43.3
Mean Longitude	-21.9	-14.7	-18.6
No. of Obs Received	2457	2521	2230
% of obs with Acceptable Position	98.9	98.0	100.0
% of Present Pressure	87.3	89.3	85.3
P. Tendency	86.9	89.1	0.0
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	45.0/ 45.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	87.2	89.1	43.8
Median delay (min)	93.5	95	452.5
Number of days	92	92	92
Mean No. of obs/day	26.7	27.4	24.2
No. of Hours with obs	2187	2196	1455
Mean no. of hours/day with obs	23.8	23.9	15.8
% of hour periods without an ob	1.0	0.5	34.1
Mean (Ob-Bg)	-0.1	0.0	-0.5
RMS (Ob-Bg) unflagged data	0.6	0.5	1.0
Mean (Ob-Bg)	-0.2	0.0	-0.5
RMS (Ob-Bg) all data	1.3	0.5	0.9
Revised RMS (Ob-Bg)	0.7	0.5	0.9
% of data flagged	8	10	30
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Good	Acceptable
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Very Poor
Comments			

Annex A - cont'd

WMO No./Country	62511/F	62512/US	62514/F
Argos Id No.	26751	12730	7119
Period Within Area	01/07 - 30/09	11/09 - 30/09	01/07 - 30/09
Mean Latitude	40.2	41.5	57.7
Mean Longitude	-24.0	-18.1	-12.1
No. of Obs Received	3517	590	3009
% of obs with Acceptable Position	100.0	98.6	95.2
% of Present Pressure	85.3	89.7	83.1
P. Tendency	0.0	89.5	83.0
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	44.0	89.5	83.2
Median delay (min)	494	107.5	79
Number of days	92	20	92
Mean No. of obs/day	38.2	29.5	32.7
No. of Hours with obs	1793	460	2150
Mean no. of hours/day with obs	19.5	23.0	23.4
% of hour periods without an ob	18.8	2.1	2.6
Mean (Ob-Bg)	-0.3	-0.9	-0.5
RMS (Ob-Bg) unflagged data	0.8	1.2	0.8
Mean (Ob-Bg)	-0.3	-0.9	-0.5
RMS (Ob-Bg) all data	0.8	1.2	0.8
Revised RMS (Ob-Bg)	0.8	1.2	0.8
% of data flagged	39	21	25
Operating at end of period	YES	YES	YES
Performance			
Availability	Very Good	Good	Good
Pressure Quality	Acceptable	Suspect	Acceptable
Timeliness	Very Poor	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	62516	62518	62519
Argos Id No.	?	?	18693
Period Within Area	09/09 - 30/09	13/09 - 30/09	09/09 - 30/09
Mean Latitude	45.9	44.2	45.5
Mean Longitude	-15.0	-16.9	-14.4
No. of Obs Received	649	575	659
% of obs with Acceptable Position	99.2	98.6	99.2
% of Present Pressure	89.1	90.4	88.8
P. Tendency	88.4	89.9	88.8
Air Temperature	0.0	0.0	0.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	88.6	90.3	88.9
Median delay (min)	93	94	95
Number of days	22	18	22
Mean No. of obs/day	29.5	31.9	30.0
No. of Hours with obs	491	423	500
Mean no. of hours/day with obs	22.3	23.5	22.7
% of hour periods without an ob	2.8	1.2	1.0
Mean (Ob-Bg)	-0.5	-0.3	0.0
RMS (Ob-Bg)	0.9	0.8	0.7
unflagged data			
Mean (Ob-Bg)	-0.5	-0.3	0.0
RMS (Ob-Bg)	0.9	0.8	0.8
all data			
Revised RMS (Ob-Bg)	0.9	0.8	0.8
% of data flagged	23	25	22
Operating at end of period	YES	YES	YES
Performance			
Availability	Good	Good	Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Good	Good	Good
Comments			

Annex A - cont'd

WMO No./Country	62564/F	62596/N	64549/N
Argos Id No.	15516	16391	3678
Period Within Area	01/07 - 14/08	01/07 - 30/09	29/07 - 30/09
Mean Latitude	32.6	62.9	62.3
Mean Longitude	-15.4	-34.7	-33.7
No. of Obs Received	891	2644	2365
% of obs with Acceptable Position	100.0	99.4	99.6
% of Present Pressure	32.8	91.7	93.0
P. Tendency	0.0	91.6	90.6
Air Temperature	0.0	0.0	93.2
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	100.0	91.7	87.0
Median delay (min)	228	74	17
Number of days	45	92	64
Mean No. of obs/day	19.8	28.7	37.0
No. of Hours with obs	889	2175	1103
Mean no. of hours/day with obs	19.8	23.6	17.2
% of hour periods without an ob	17.1	1.4	27.5
Mean (Ob-Bg)	0.4	-0.4	-0.3
RMS (Ob-Bg) unflagged data	0.6	1.0	0.8
Mean (Ob-Bg)	0.4	-0.3	-0.3
RMS (Ob-Bg) all data	0.6	1.0	1.9
Revised RMS (Ob-Bg)	0.6	1.0	0.9
% of data flagged	1	16	62
Operating at end of period	NO	YES	YES
Performance			
Availability	Acceptable	Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Poor	Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	64550/D	65516/N	65581/IR
Argos Id No.	4270	3677	6666
Period Within Area	30/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	62.8	61.2	58.9
Mean Longitude	-27.3	-35.1	-32.5
No. of Obs Received	2553	4097	2722
% of obs with Acceptable Position	99.6	99.2	98.7
% of Present Pressure	96.3	95.8	92.1
P. Tendency	94.3	54.9	88.2
Air Temperature	95.8	96.1	92.0
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	87.2	78.1	84.5
Median delay (min)	15	16	18
Number of days	63	92	92
Mean No. of obs/day	40.5	44.5	29.6
No. of Hours with obs	1178	1783	1482
Mean no. of hours/day with obs	18.7	19.4	16.1
% of hour periods without an ob	21.6	19.1	32.8
Mean (Ob-Bg)	-0.3	-0.5	-0.7
RMS (Ob-Bg) unflagged data	0.8	0.9	1.0
Mean (Ob-Bg)	-0.4	-0.5	-0.8
RMS (Ob-Bg) all data	2.2	2.7	2.4
Revised RMS (Ob-Bg)	0.9	0.9	1.2
% of data flagged	62	64	56
Operating at end of period	YES	YES	YES
Performance Availability	Very Good	Very Good	Good
Pressure Quality	Acceptable	Acceptable	Suspect
Timeliness	Very Good	Very Good	Very Good
Comments			

Annex A - cont'd

WMO No./Country	65595/NL	65602/IR	65662/D
Argos Id No.	4229	6667	9307
Period Within Area	01/07 - 30/09	01/07 - 30/09	01/07 - 30/09
Mean Latitude	57.1	60.2	61.2
Mean Longitude	-37.0	-23.3	-33.0
No. of Obs Received	3856	5279	4835
% of obs with Acceptable Position	100.0	98.9	98.3
% of Present Pressure	95.2	95.6	95.8
P. Tendency	91.2	93.1	92.7
Air Temperature	94.8	95.4	95.4
Wind Speed/Dir	0.0/ 0.0	0.0/ 0.0	0.0/ 0.0
Sea-Surface Temp.	69.4	84.9	85.8
Median delay (min)	23	18	17
Number of days	92	92	92
Mean No. of obs/day	41.9	57.4	52.6
No. of Hours with obs	1664	1814	1758
Mean no. of hours/day with obs	18.1	19.7	19.1
% of hour periods without an ob	24.5	17.7	20.2
Mean (Ob-Bg)	-0.3	-0.5	-0.5
RMS (Ob-Bg) unflagged data	0.9	1.0	1.0
Mean (Ob-Bg)	-0.4	-0.7	-0.5
RMS (Ob-Bg) all data	3.5	3.4	1.6
Revised RMS (Ob-Bg)	0.9	1.0	1.1
% of data flagged	64	72	71
Operating at end of period	YES	YES	YES
Performance Availability	Very Good	Very Good	Very Good
Pressure Quality	Acceptable	Acceptable	Acceptable
Timeliness	Very Good	Very Good	Very Good
Comments			

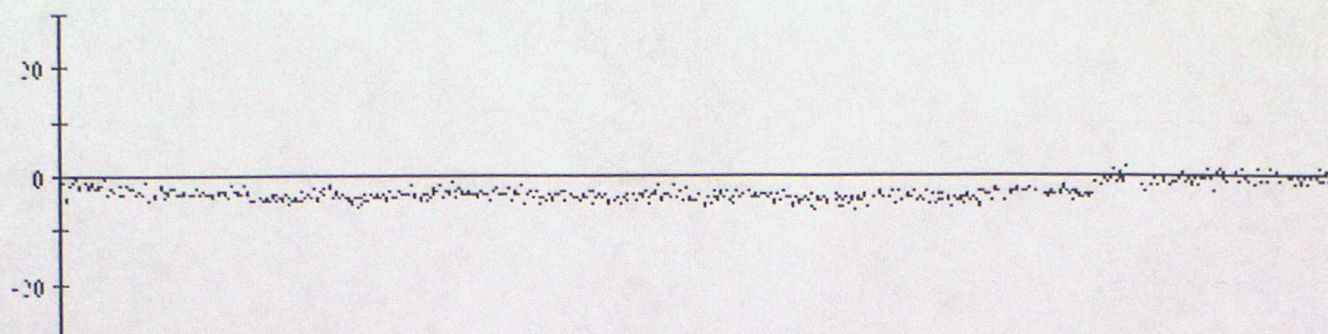
Annex A - cont'd

WMO No./Country	65663/D		
Argos Id No.	9308		
Period Within Area	01/07 - 13/09		
Mean Latitude	53.6		
Mean Longitude	-33.0		
No. of Obs Received	2642		
% of obs with Acceptable Position	97.6		
% of Present Pressure	96.3		
P. Tendency	94.2		
Air Temperature	96.1		
Wind Speed/Dir	0.0/ 0.0		
Sea-Surface Temp.	85.0		
Median delay (min)	17		
Number of days	75		
Mean No. of obs/day	35.2		
No. of Hours with obs	1235		
Mean no. of hours/day with obs	16.5		
% of hour periods without an ob	30.7		
Mean (Ob-Bg)	-0.7		
RMS (Ob-Bg) unflagged data	1.8		
Mean (Ob-Bg)	-0.4		
RMS (Ob-Bg) all data	4.2		
Revised RMS (Ob-Bg)	3.1		
% of data flagged	65		
Operating at end of period	NO		
Performance Availability	Very Good		
Pressure Quality	Suspect		
Timeliness	Very Good		
Comments			

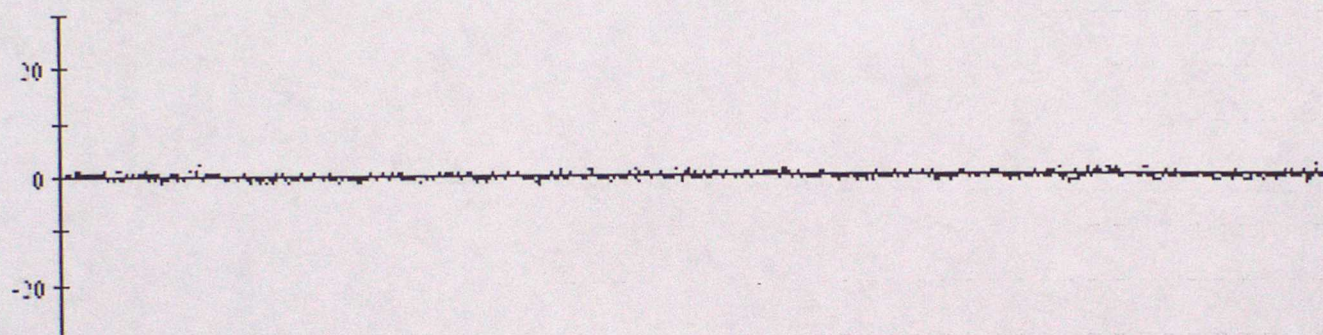
ANNEX B - TIME SERIES PLOTS OF PRESSURE

Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

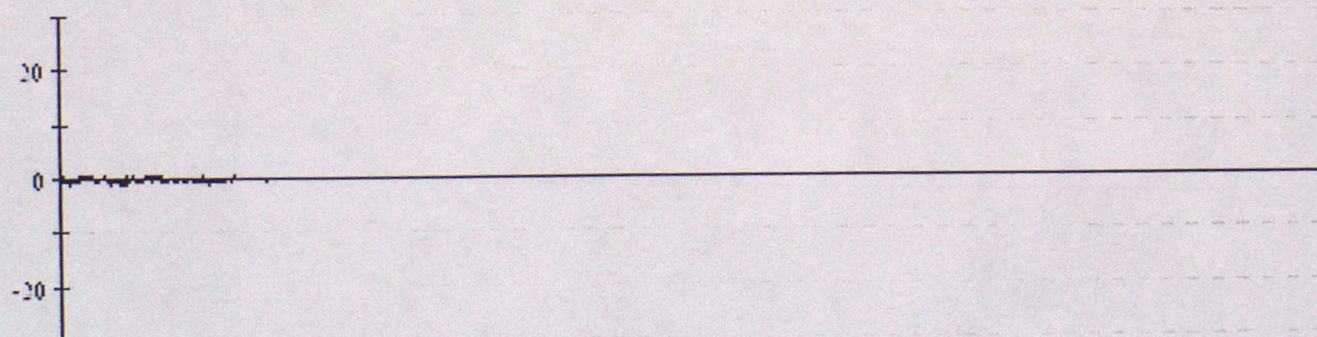
41505 Pressure



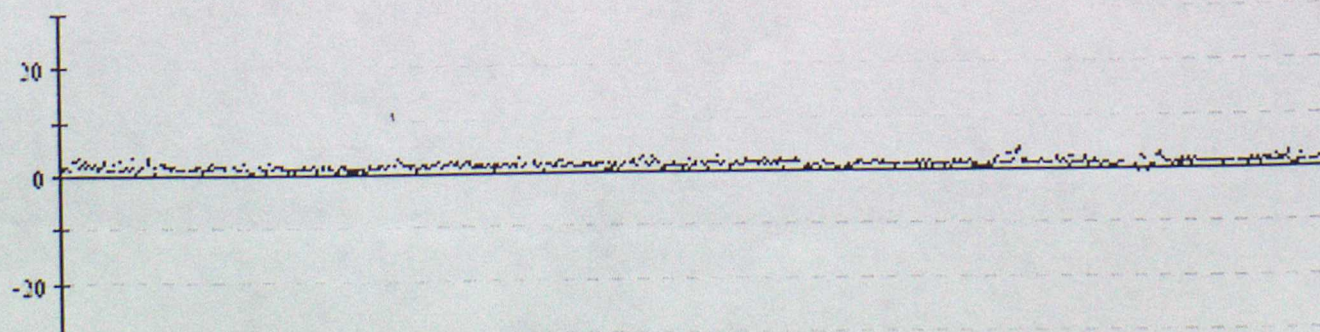
41523 Pressure



41571 Pressure

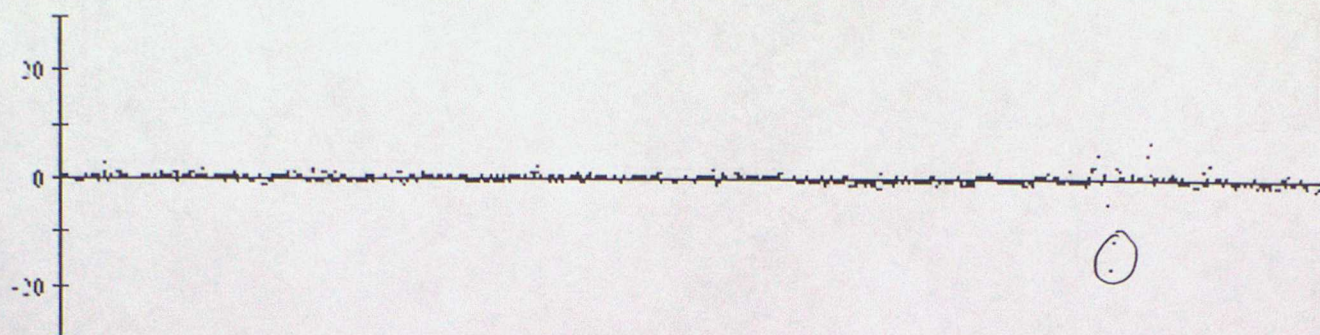


41639 Pressure

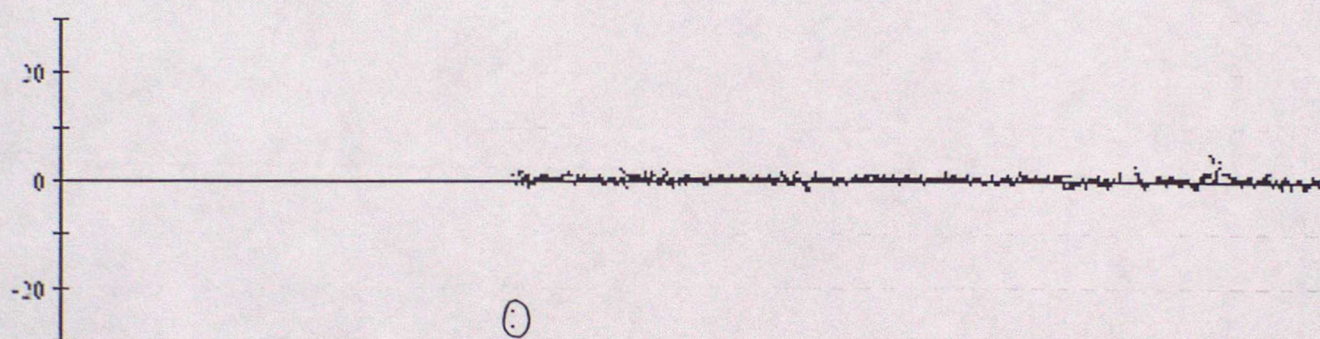


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

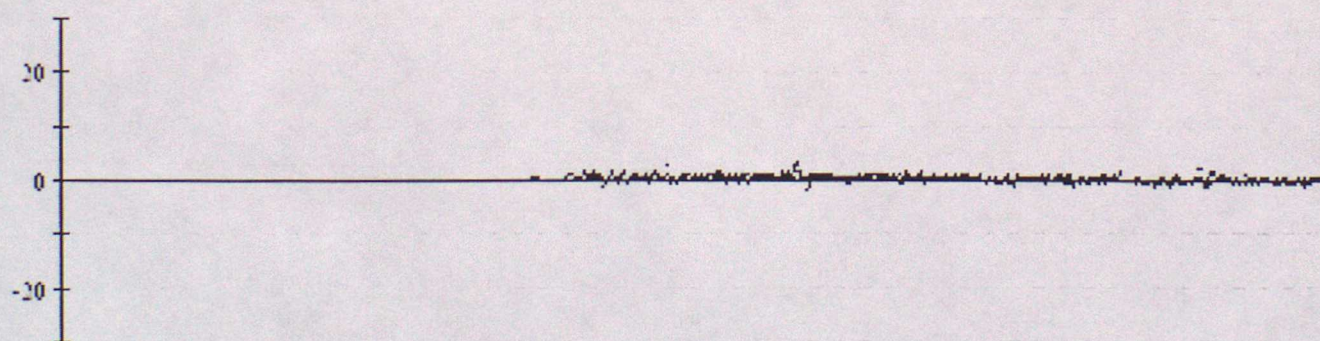
41644 Pressure



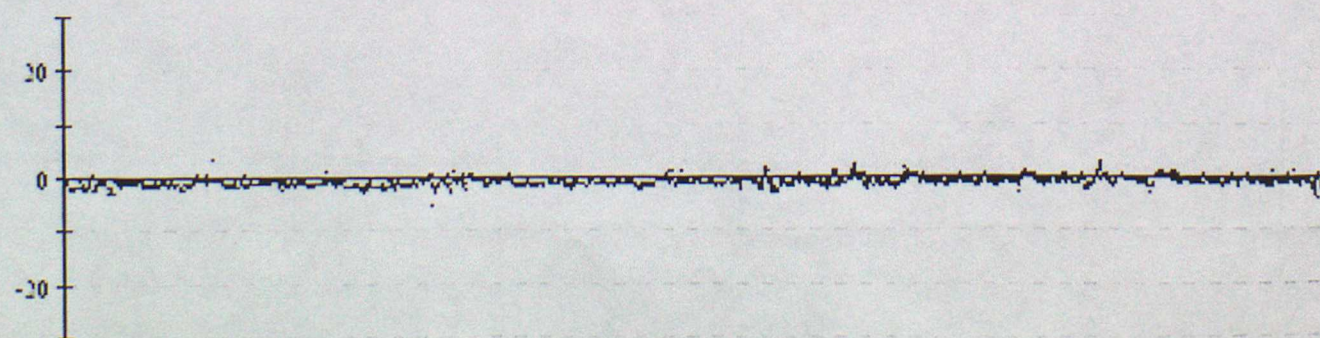
41647 Pressure



41652 Pressure

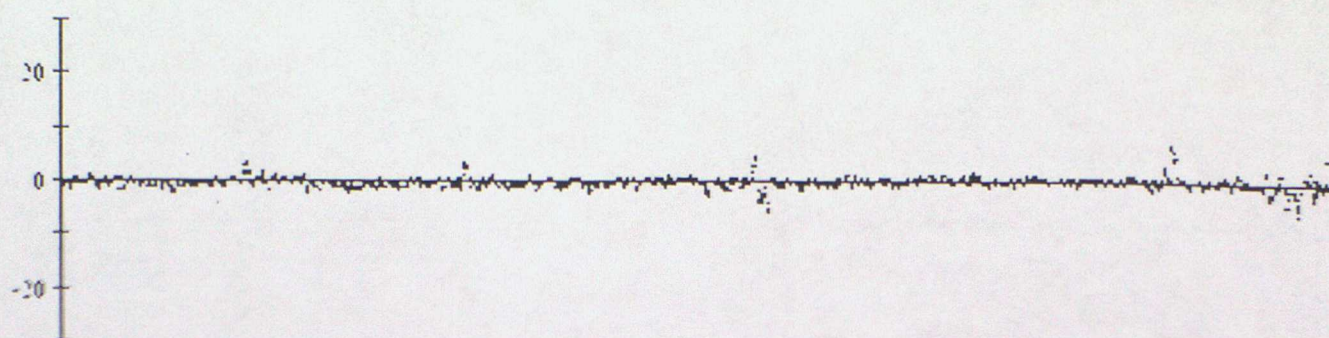


44546 Pressure

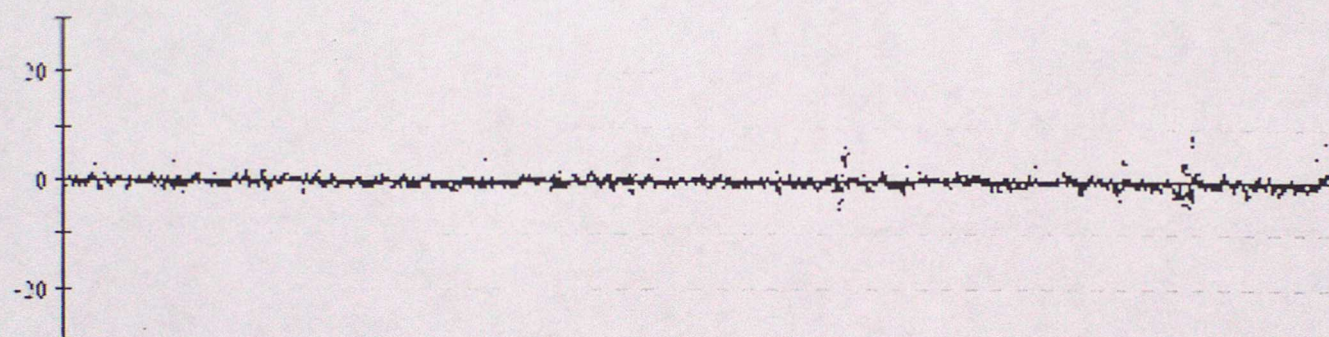


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

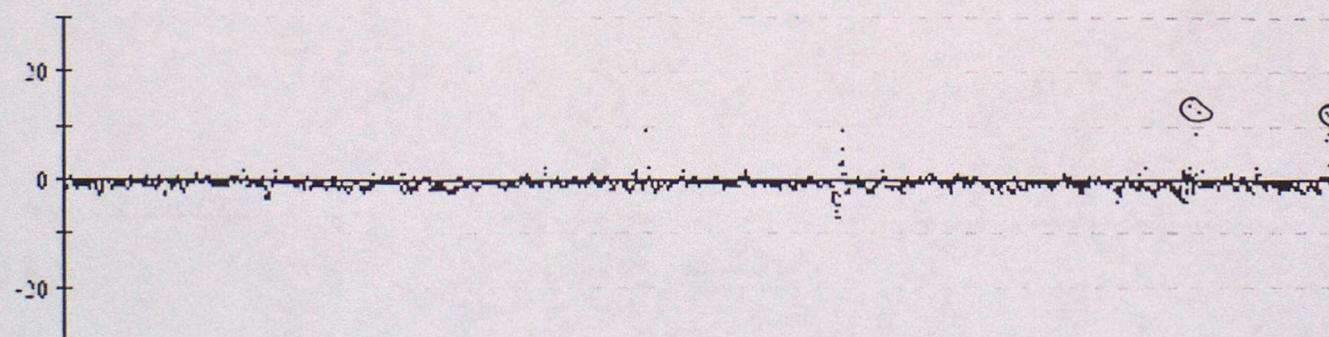
44548 Pressure



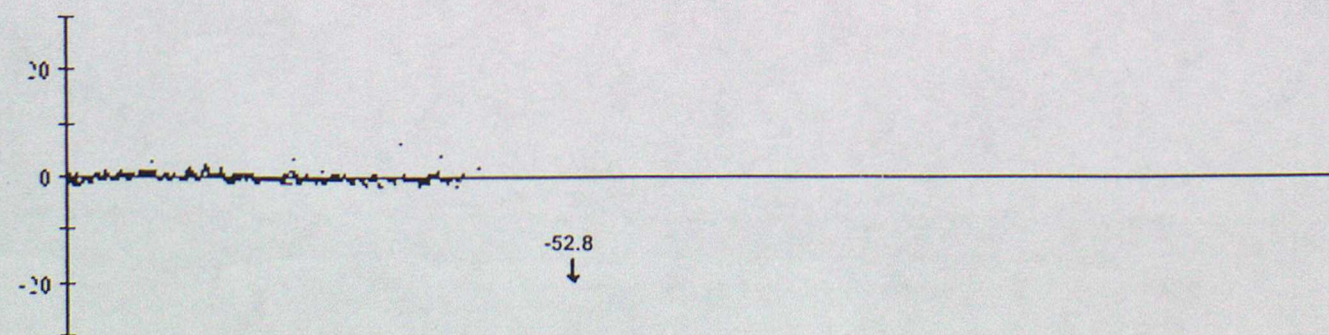
44549 Pressure



44550 Pressure

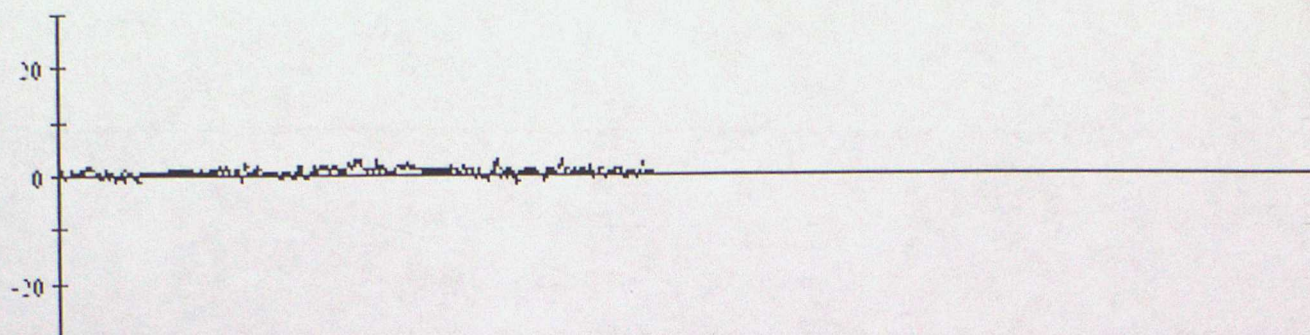


44610 Pressure

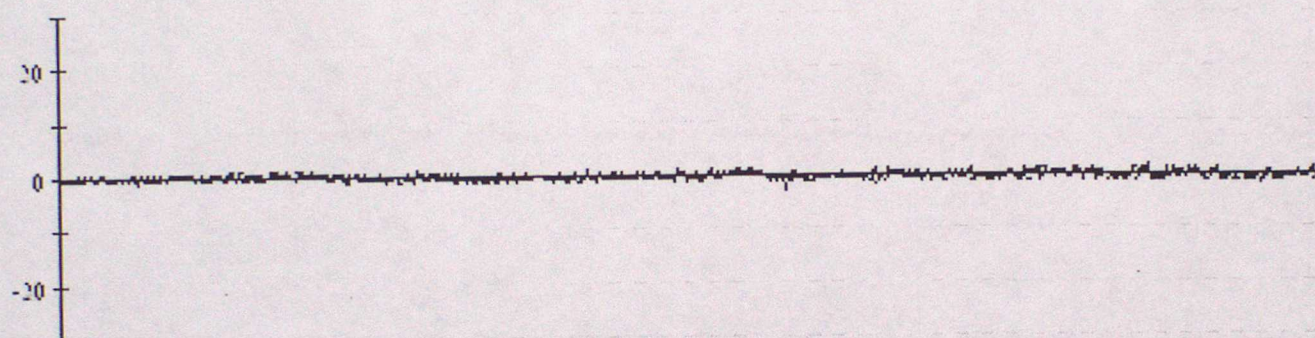


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

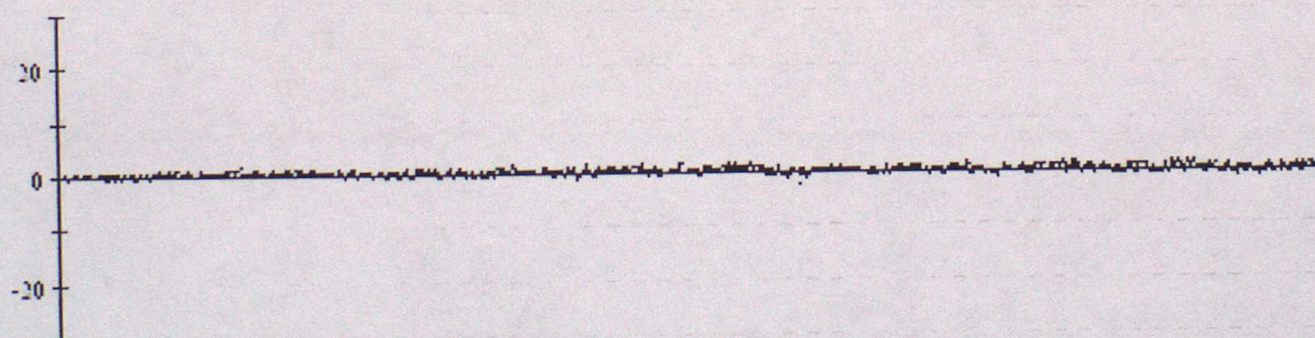
44611 Pressure



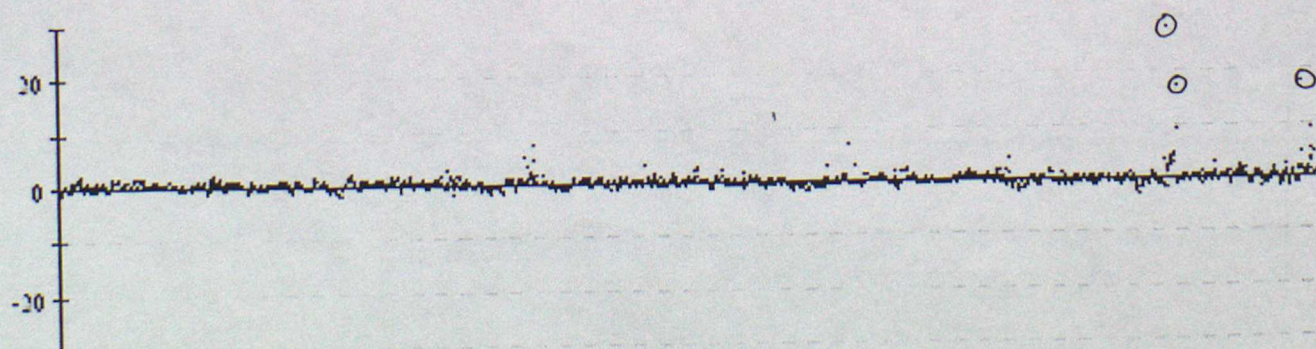
44612 Pressure



44613 Pressure

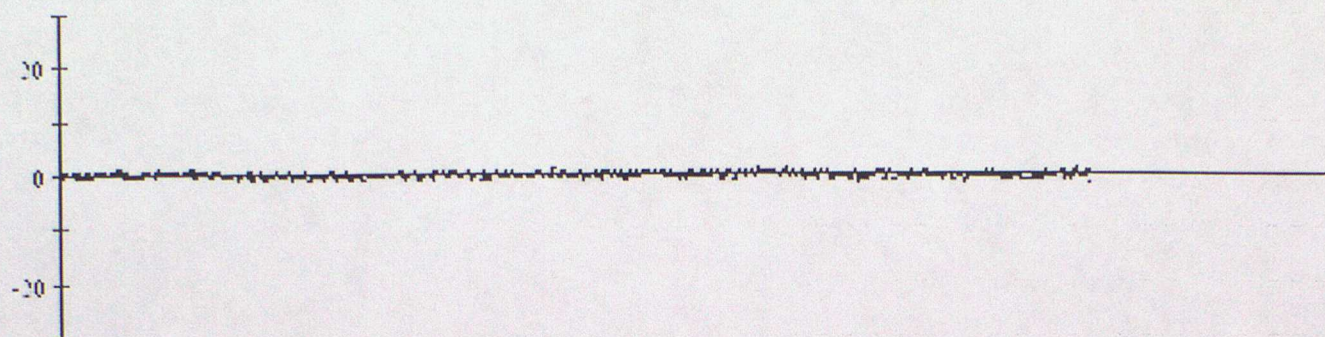


44616 Pressure

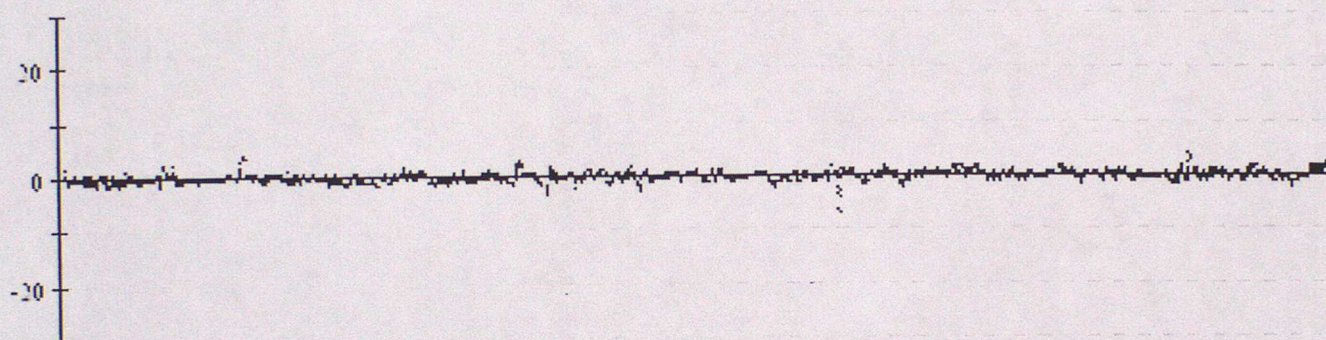


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

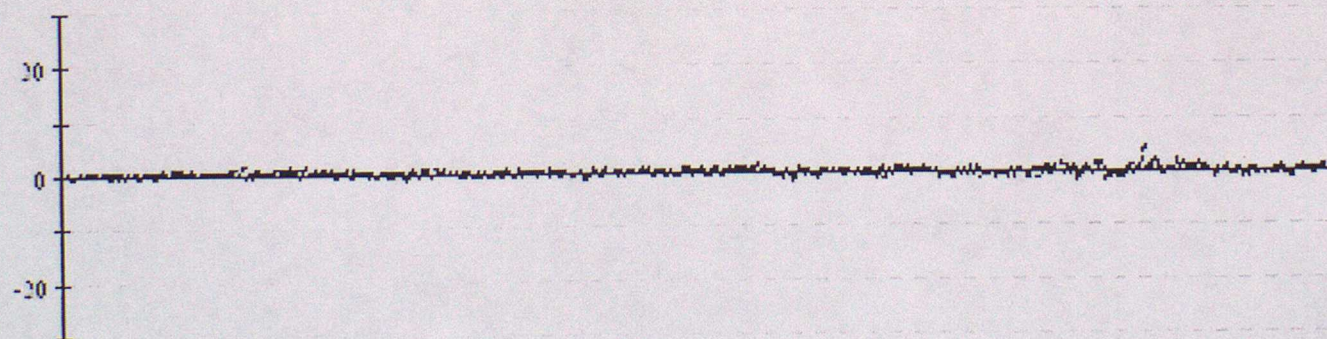
44620 Pressure



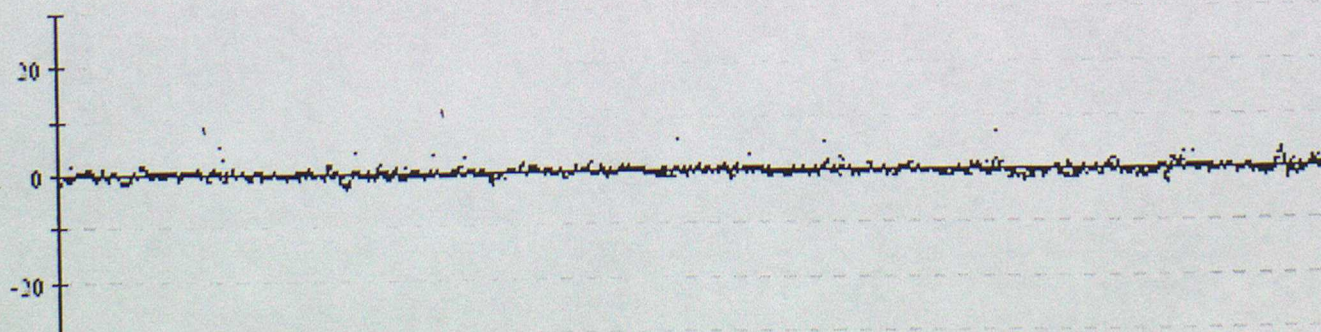
44621 Pressure



44623 Pressure

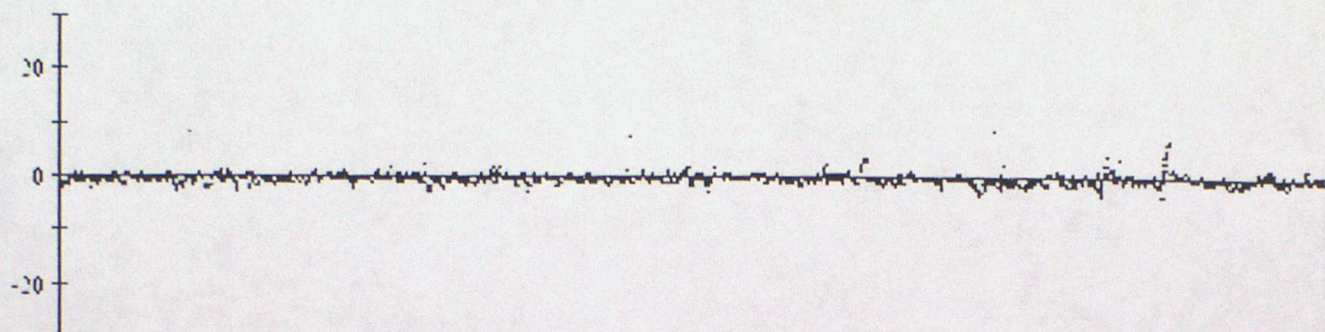


44624 Pressure

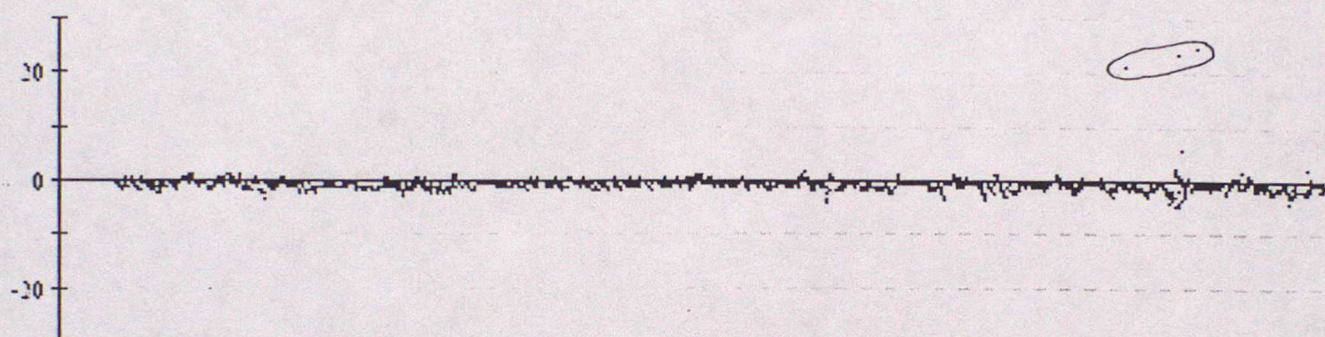


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

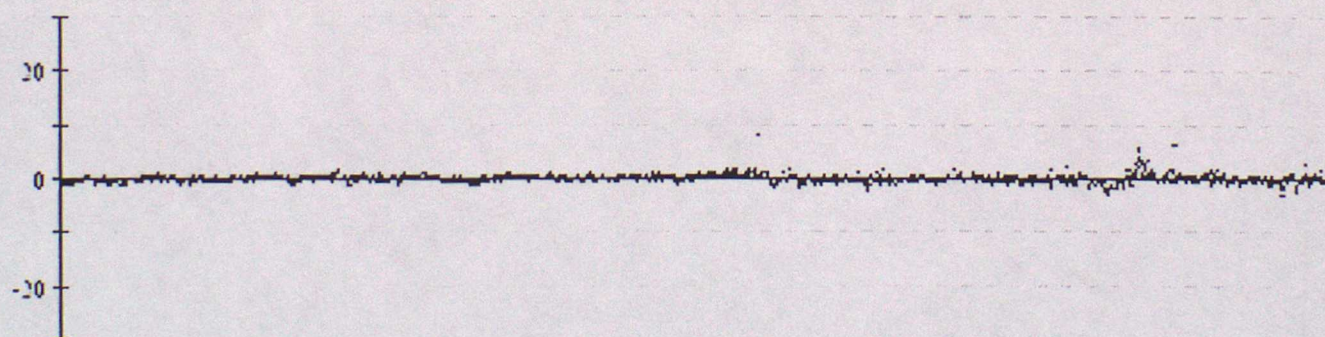
44625 Pressure



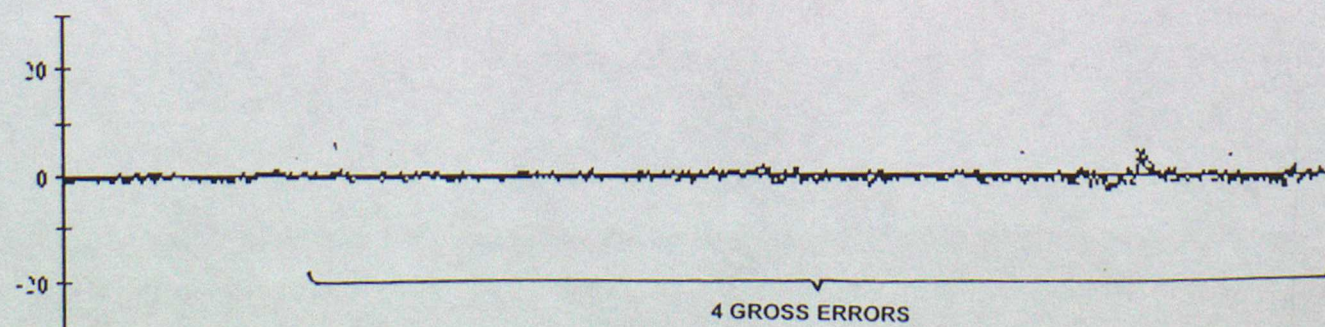
44627 Pressure



44721 Pressure

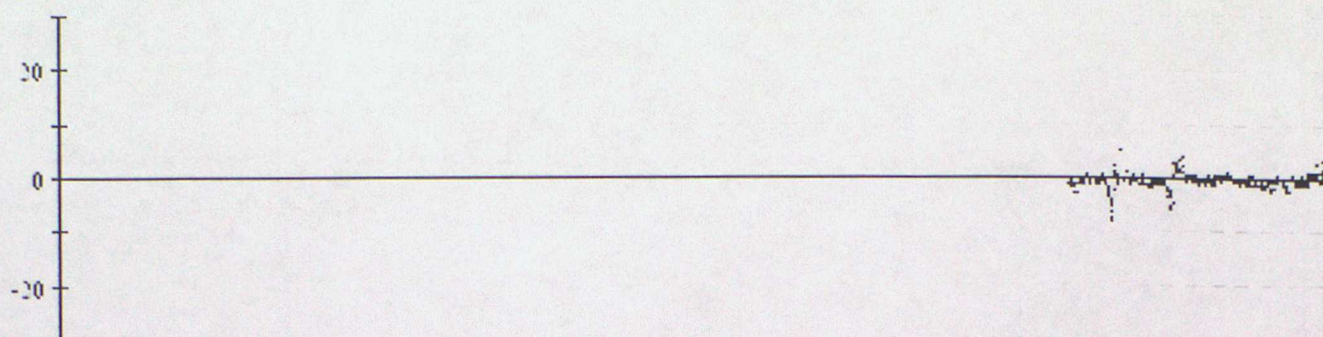


44722 Pressure

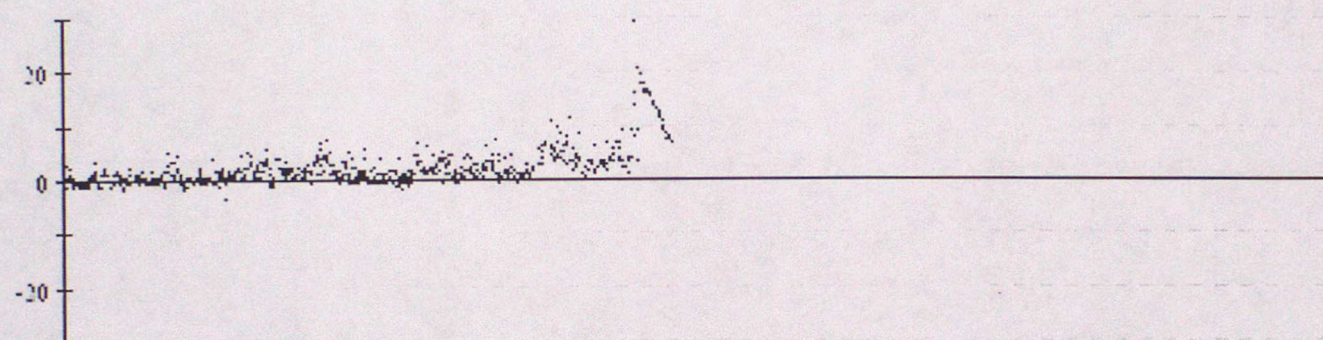


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

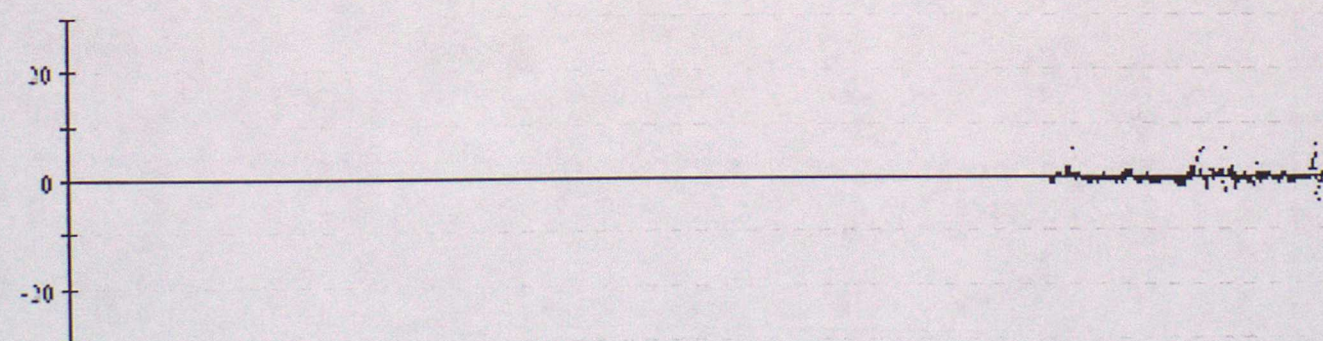
44723 Pressure



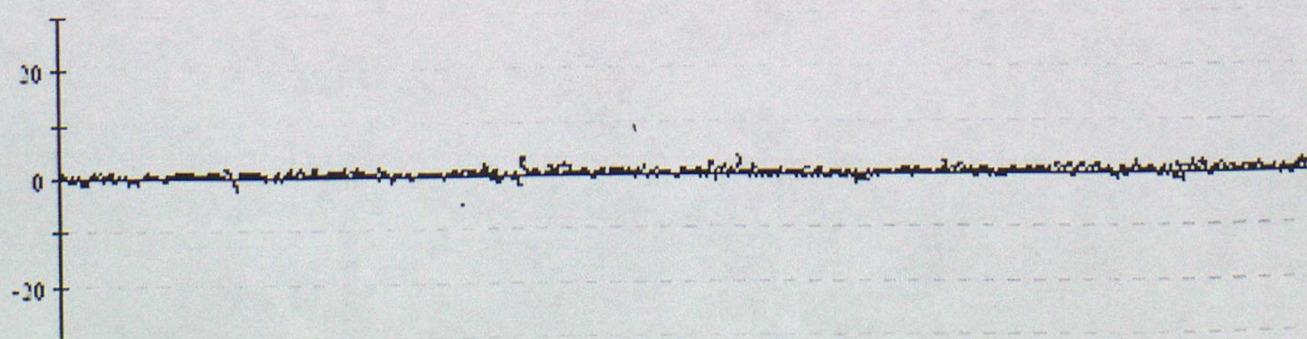
44725 Pressure



44726 Pressure

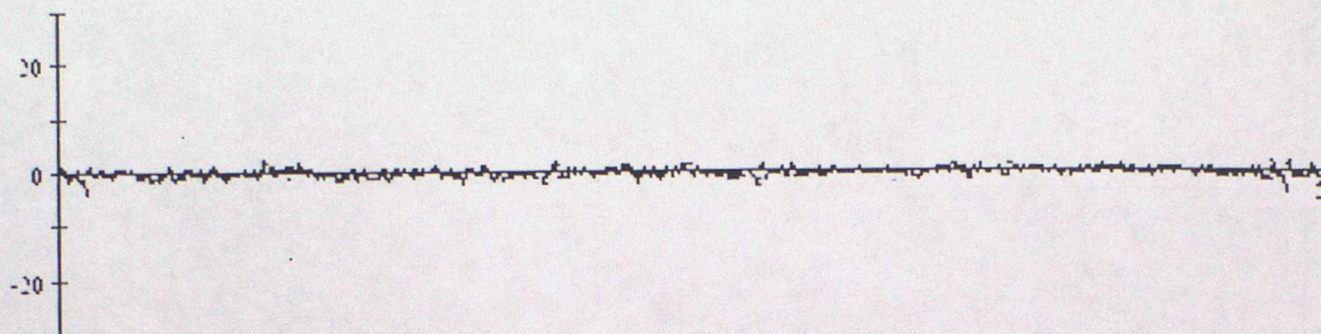


44729 Pressure

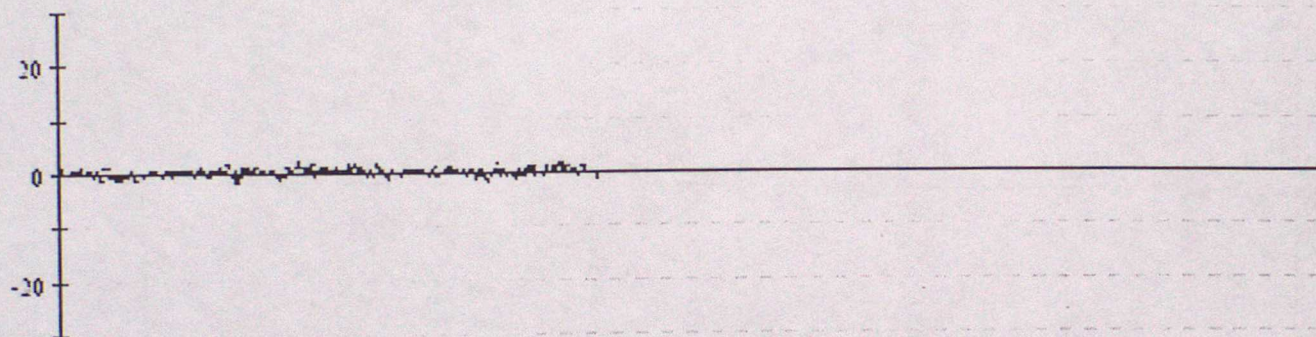


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

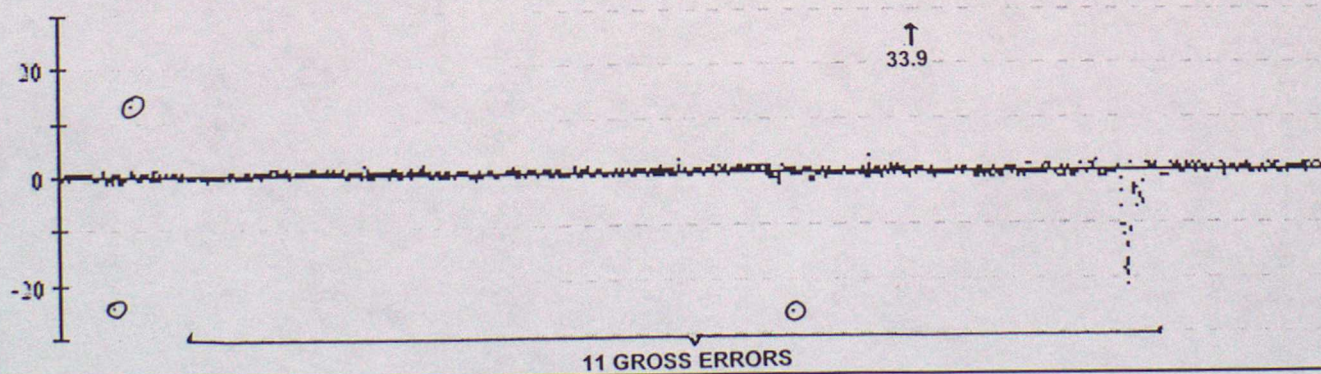
44761 Pressure



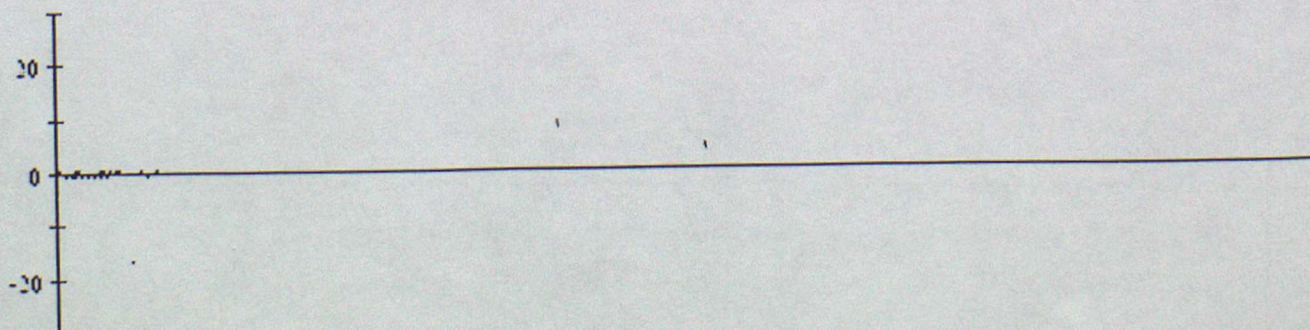
44762 Pressure



44765 Pressure

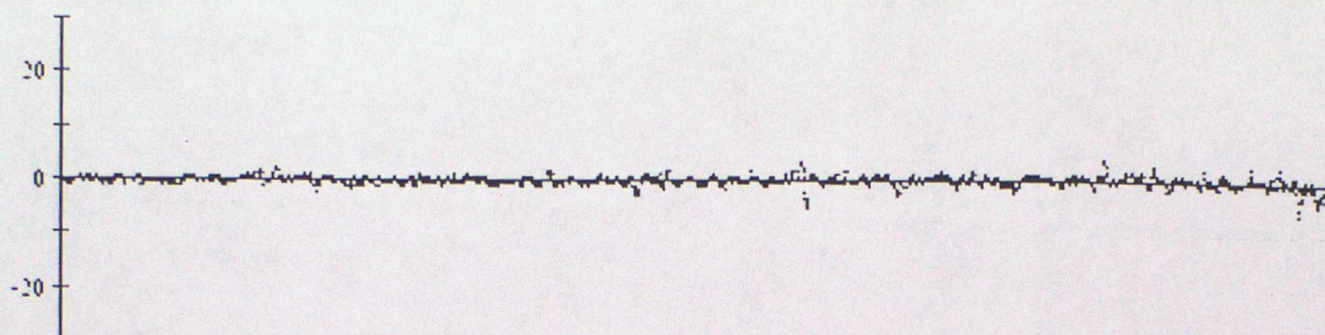


44770 Pressure

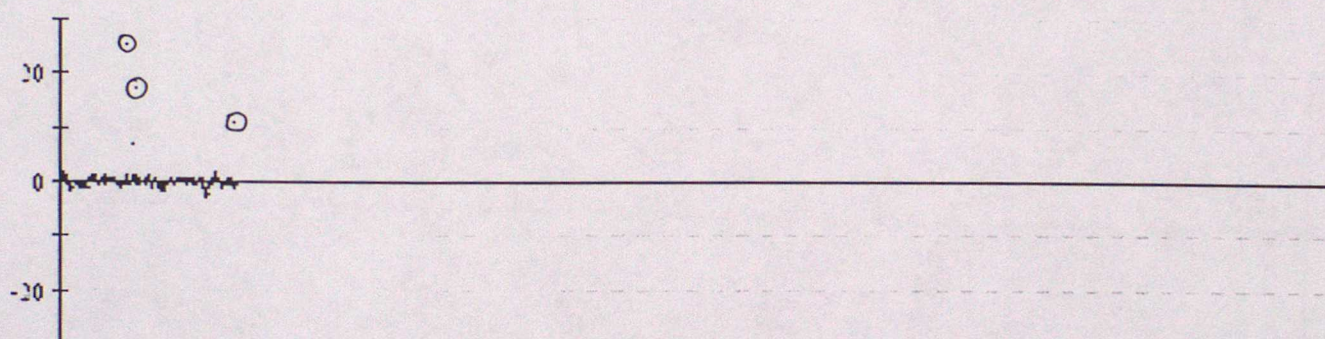


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

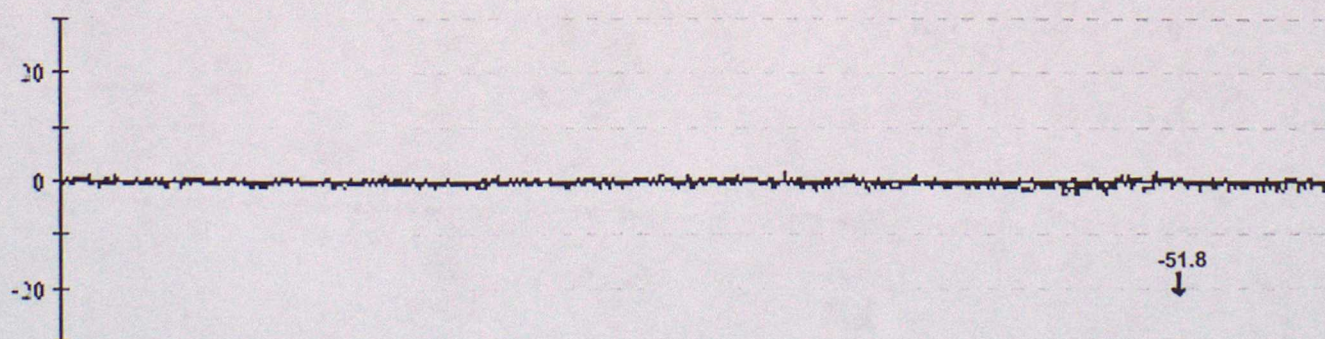
44771 Pressure



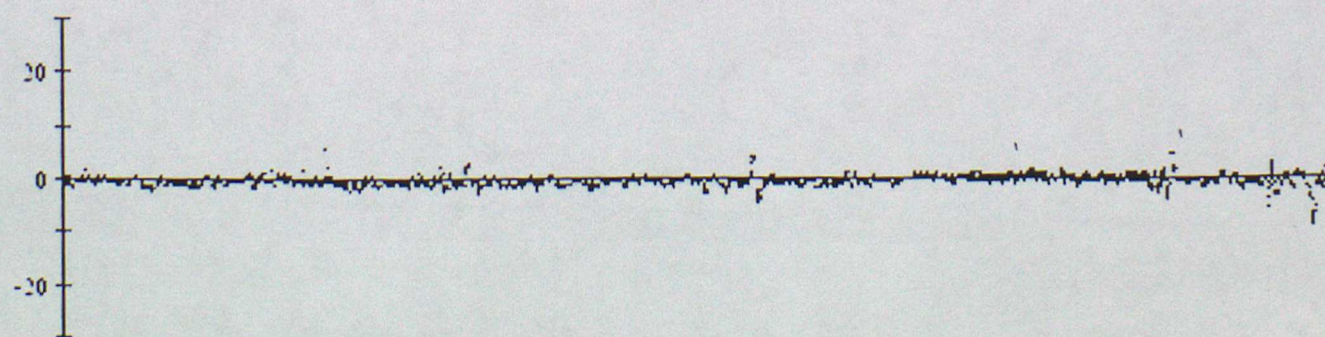
44774 Pressure



44775 Pressure

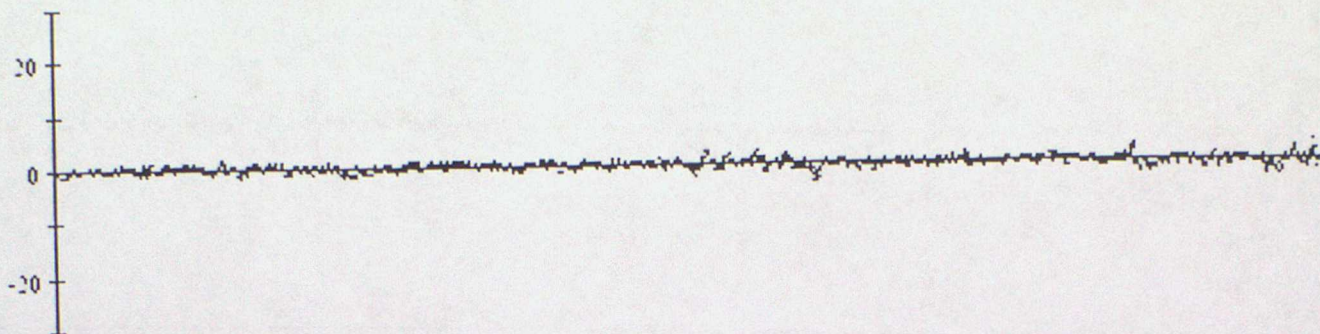


44776 Pressure

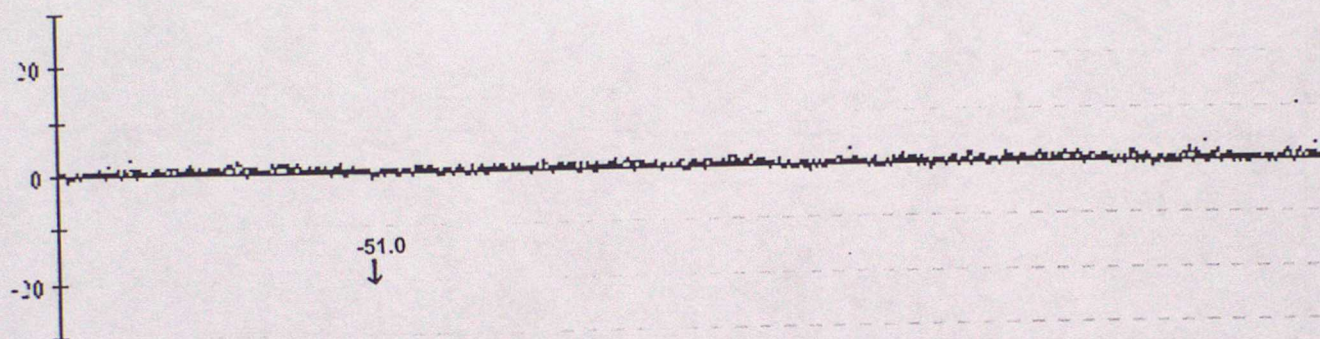


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

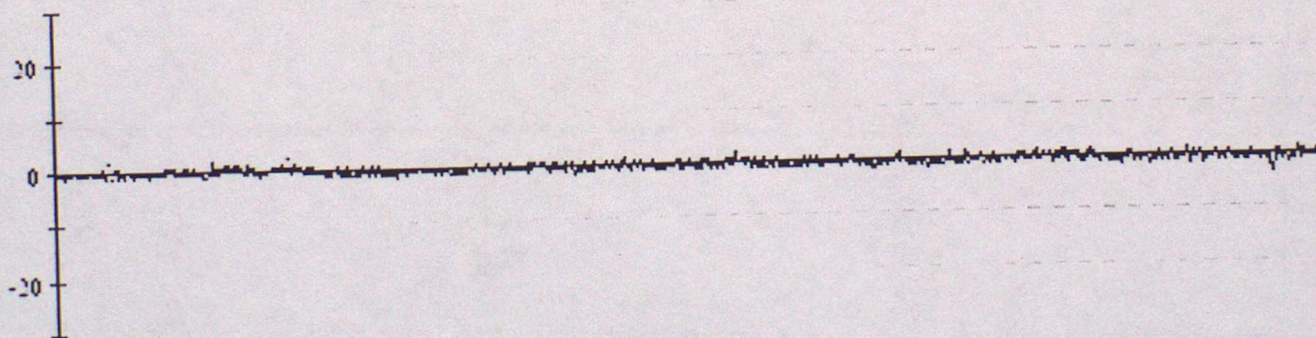
44778 Pressure



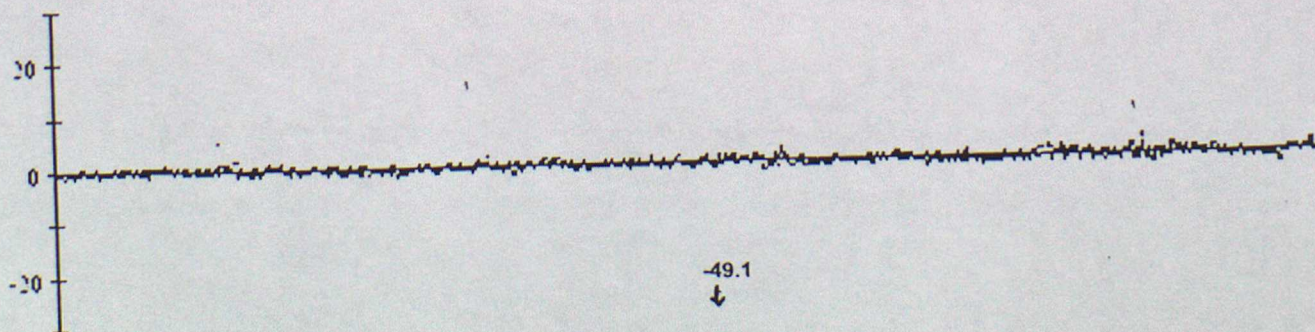
62501 Pressure



62503 Pressure

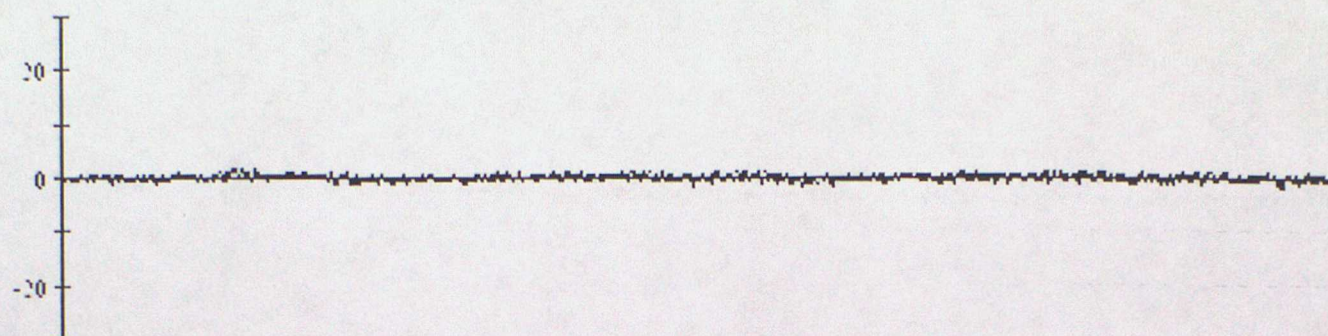


62504 Pressure

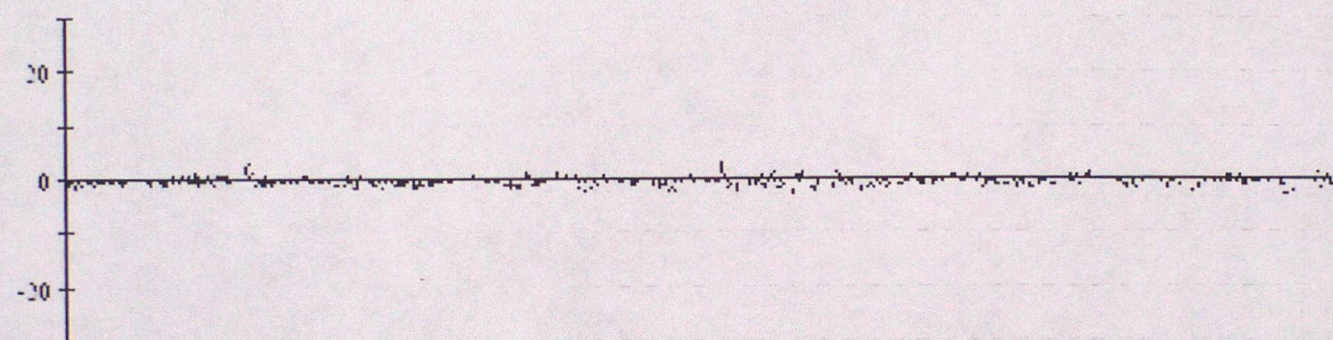


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

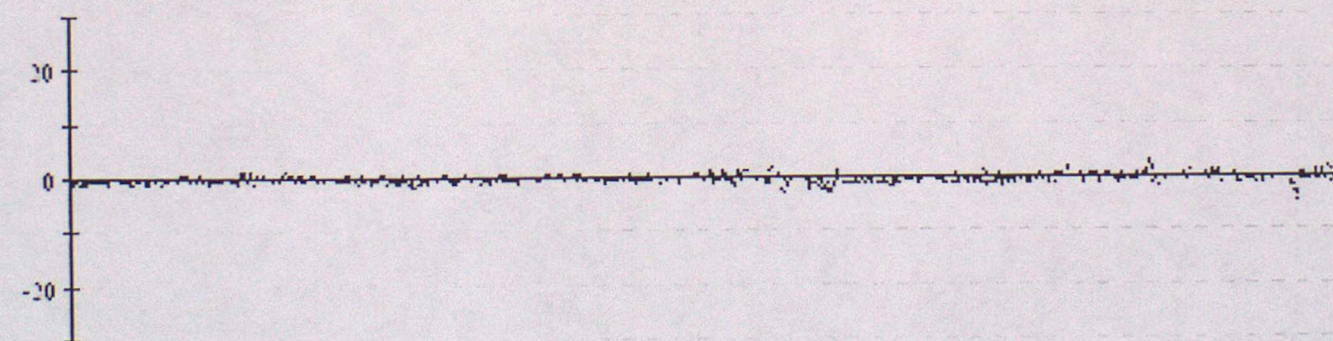
62505 Pressure



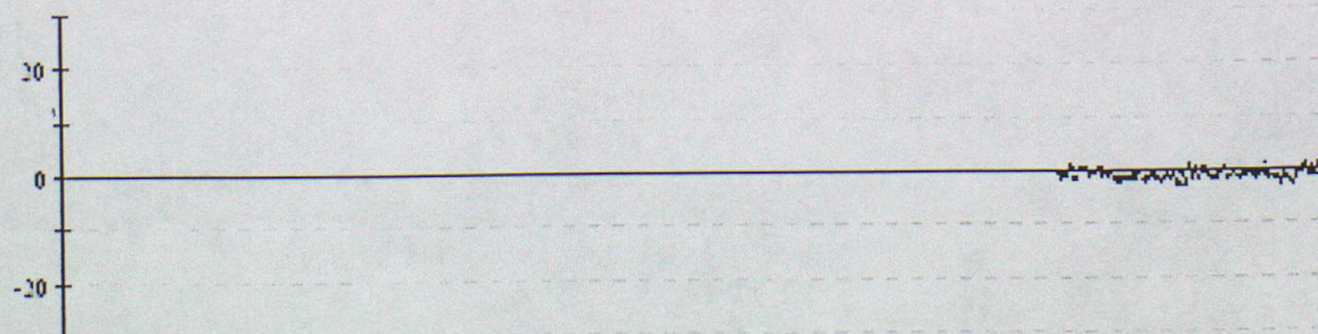
62510 Pressure



62511 Pressure

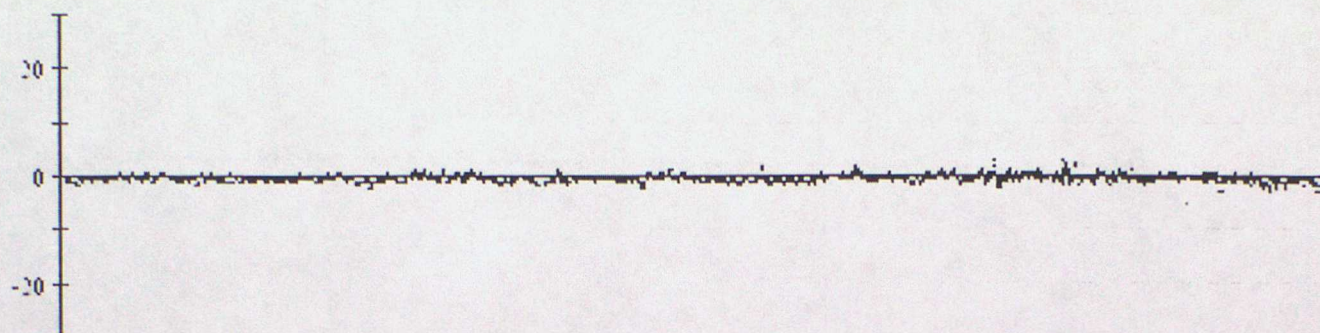


62512 Pressure

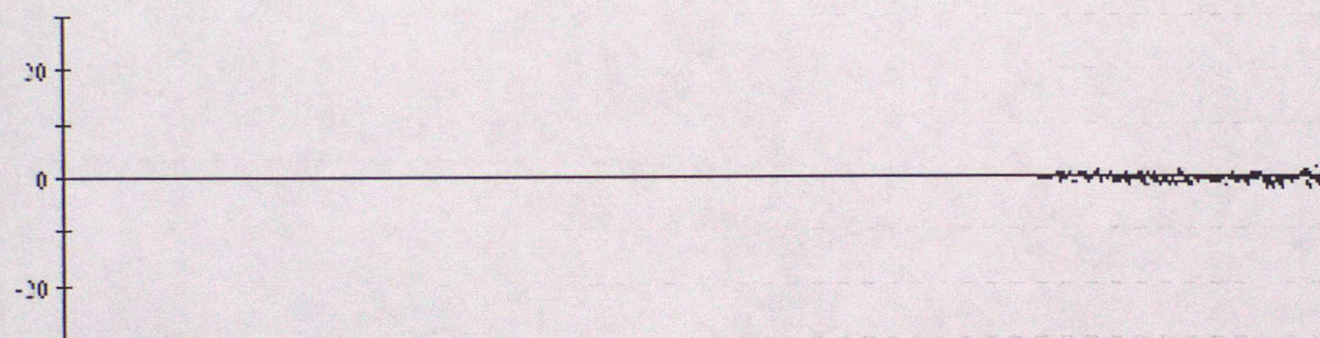


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

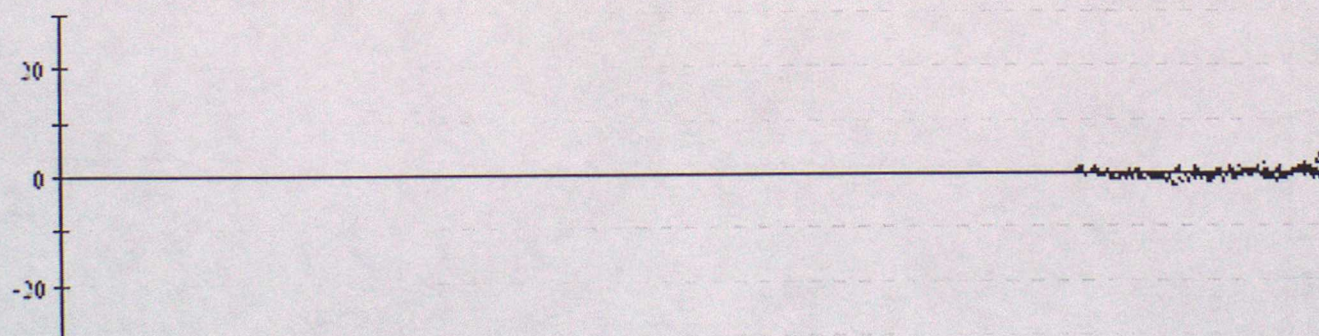
62514 Pressure



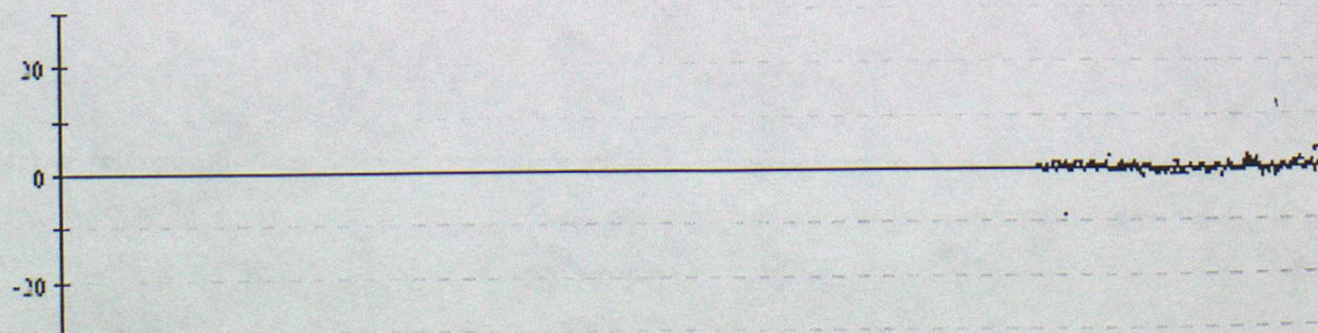
62516 Pressure



62518 Pressure

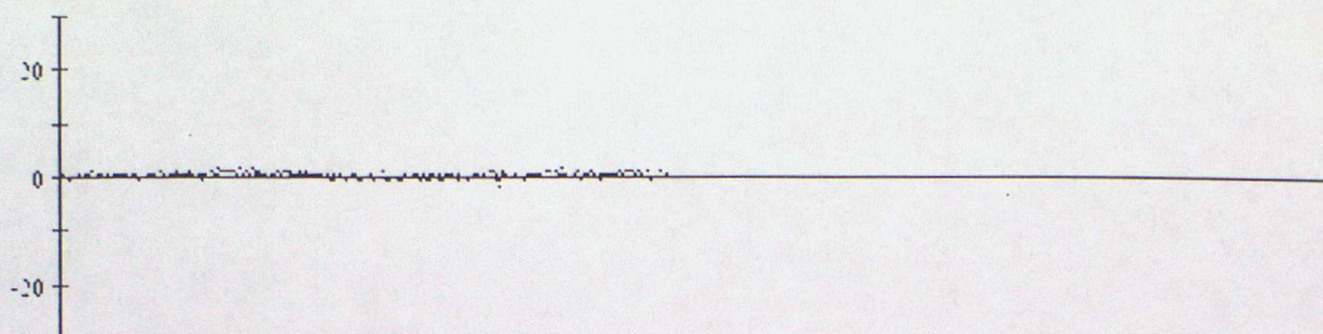


62519 Pressure

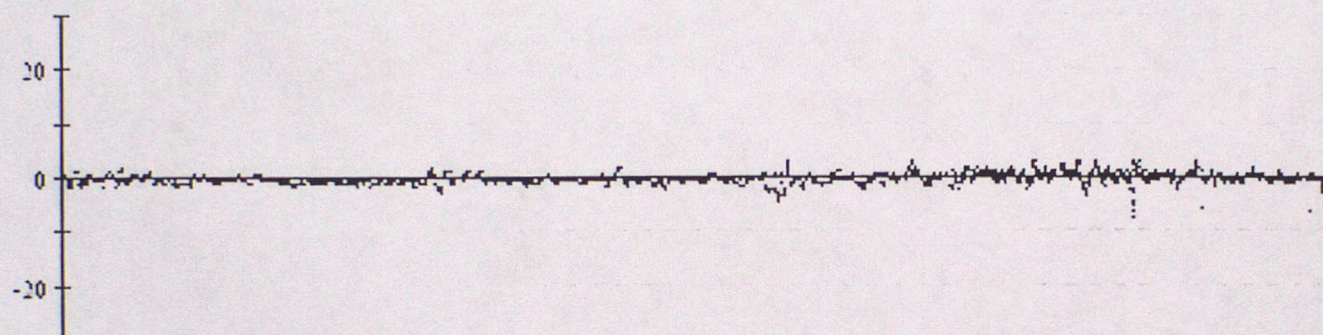


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

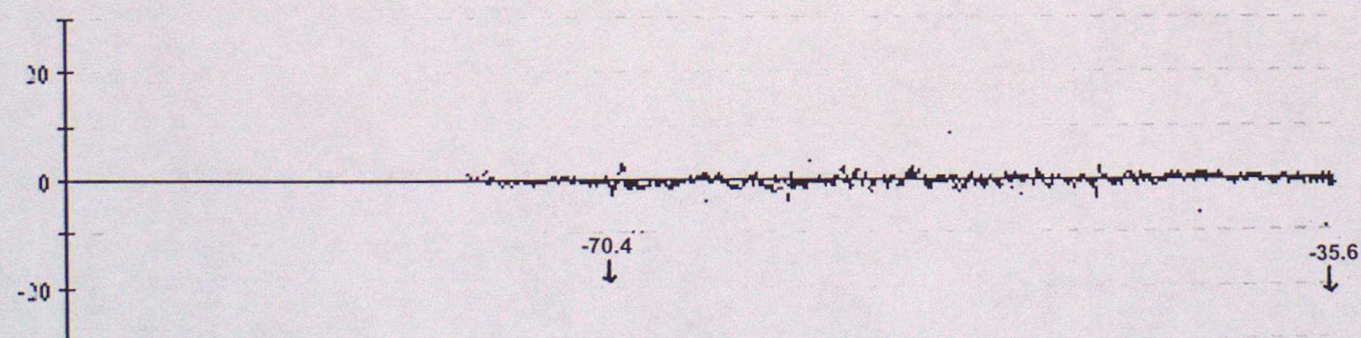
62564 Pressure



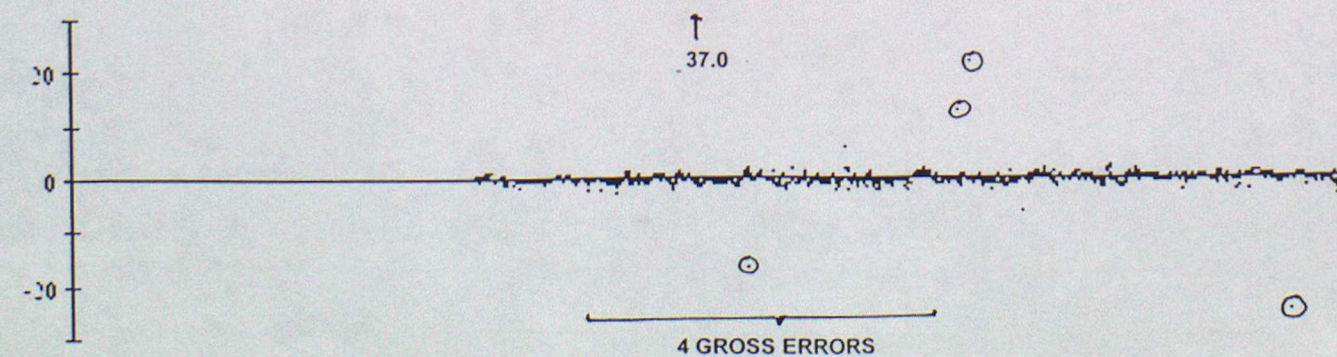
62596 Pressure



64549 Pressure

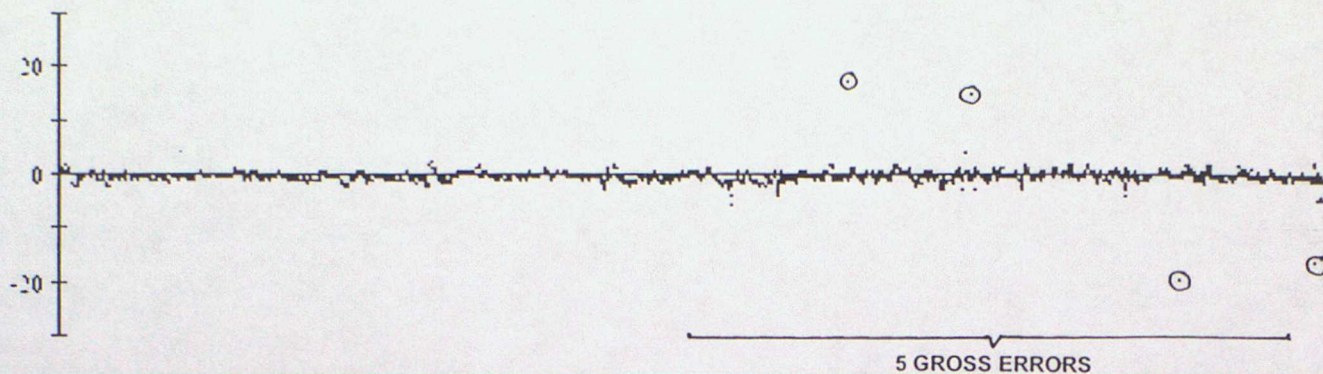


64550 Pressure

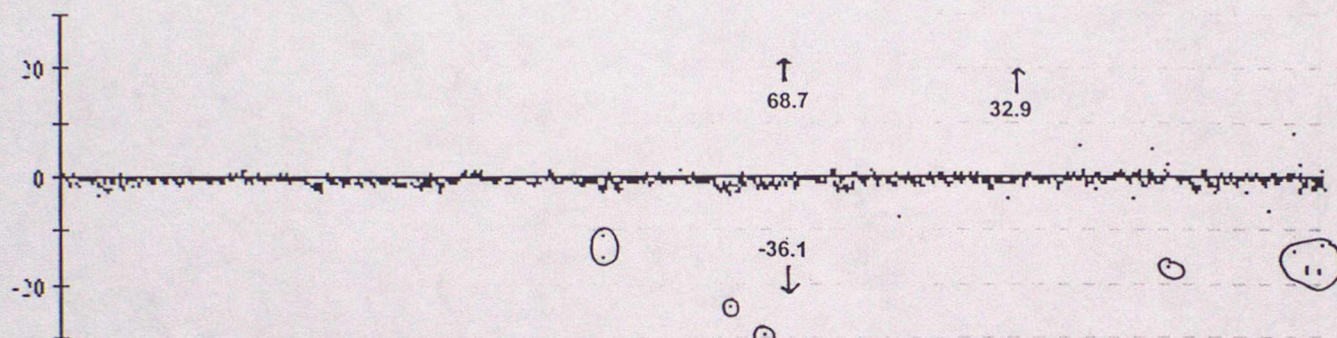


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

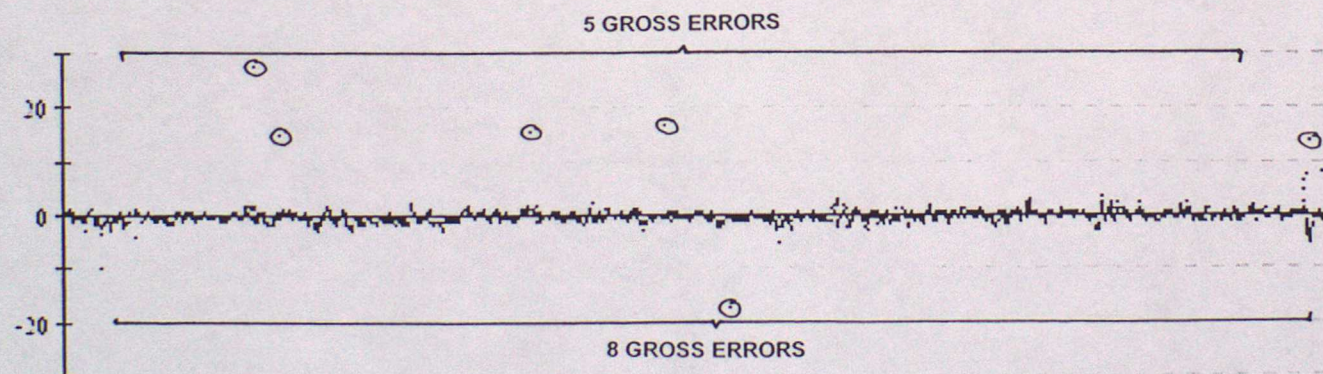
65516 Pressure



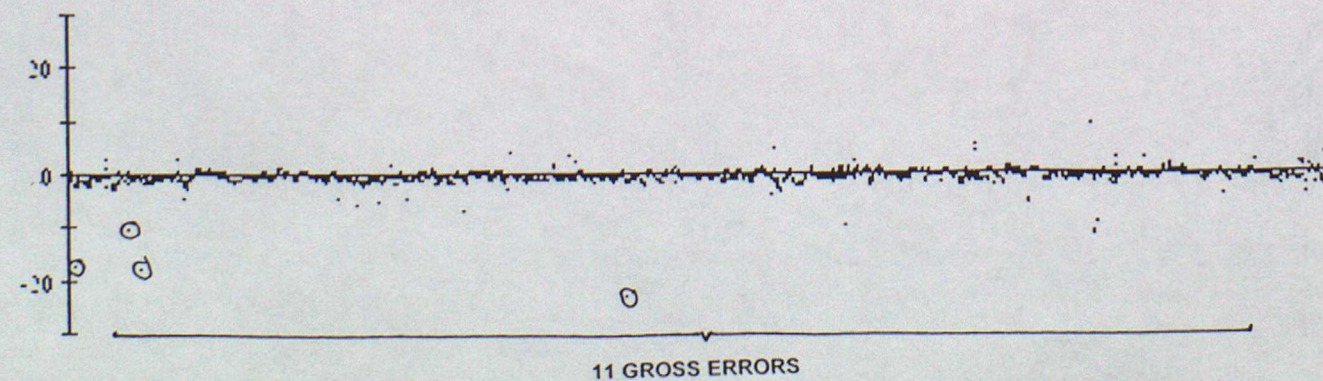
65581 Pressure



65595 Pressure

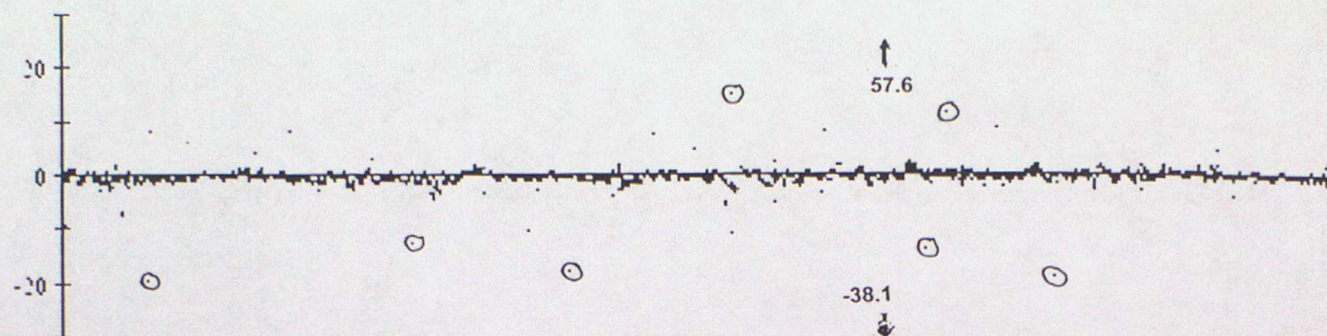


65602 Pressure

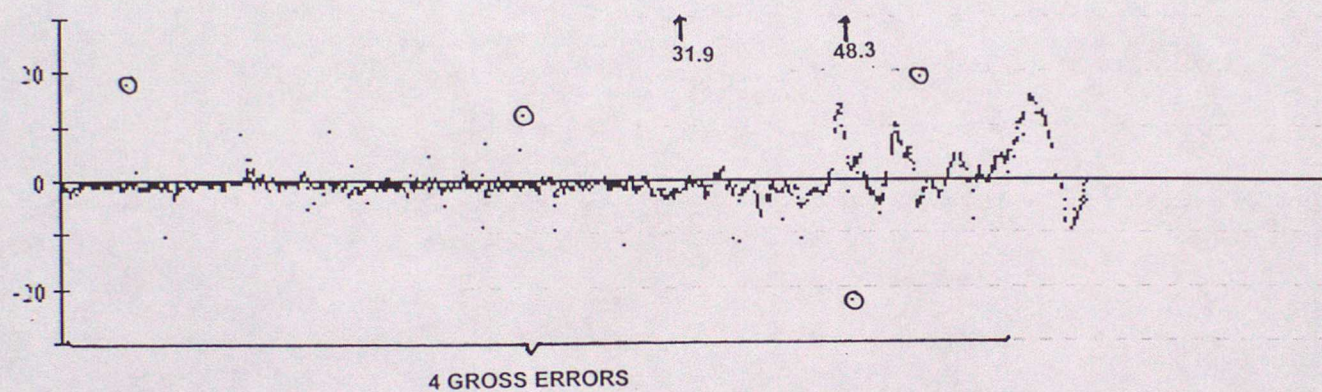


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

65662 Pressure



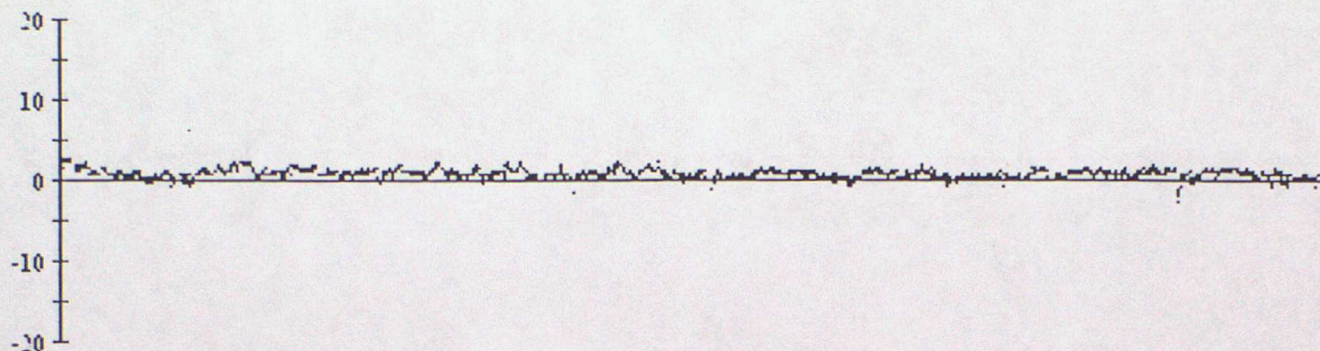
65663 Pressure



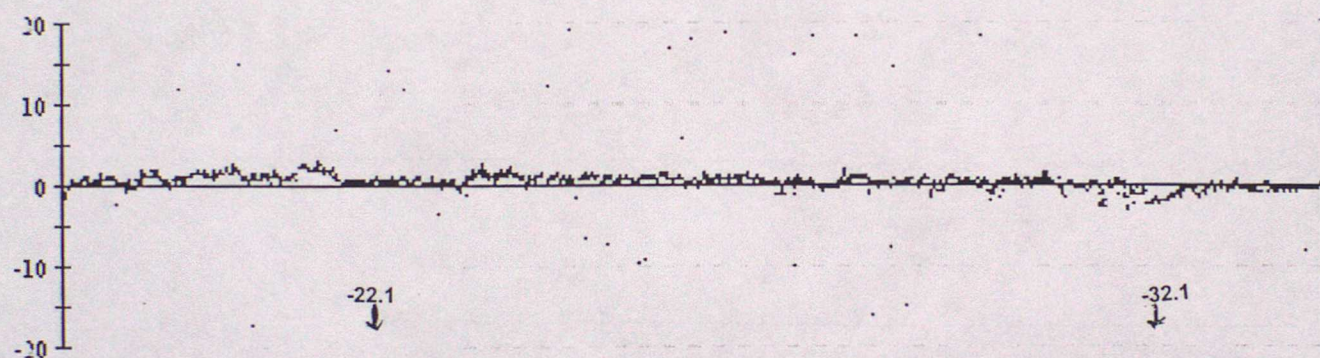
ANNEX C - TIME SERIES PLOTS OF AIR TEMPERATURE

Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

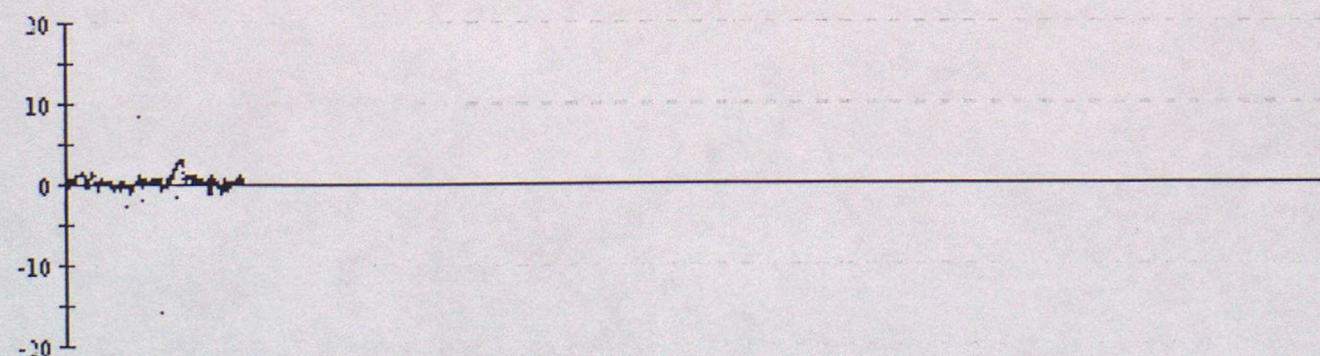
44613 Air Temperature



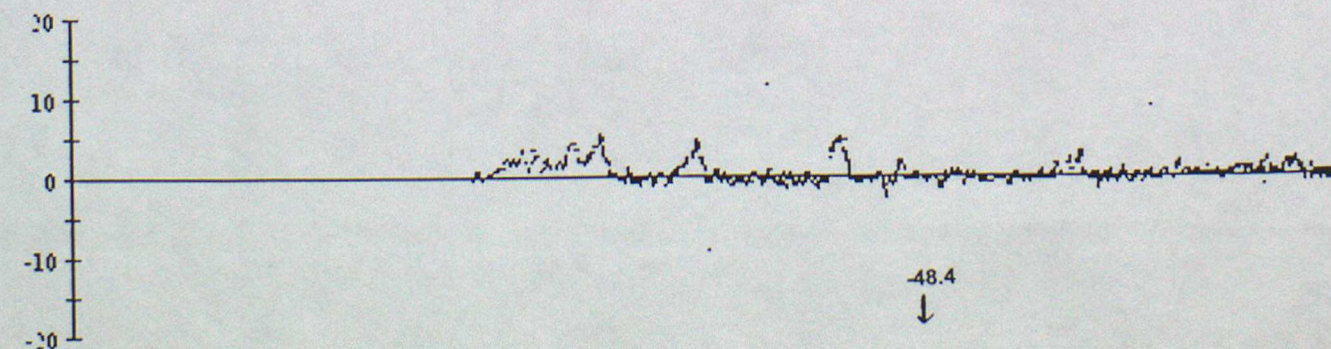
44765 Air Temperature



44774 Air Temperature

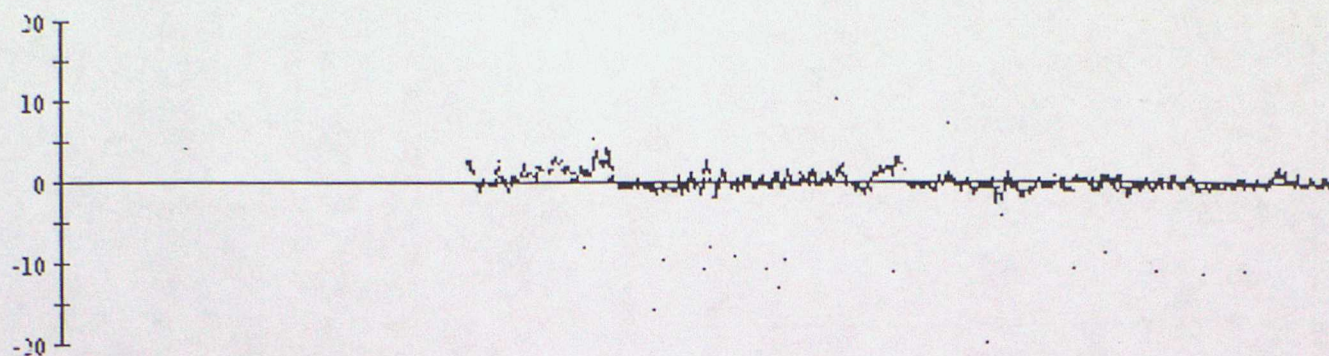


64549 Air Temperature

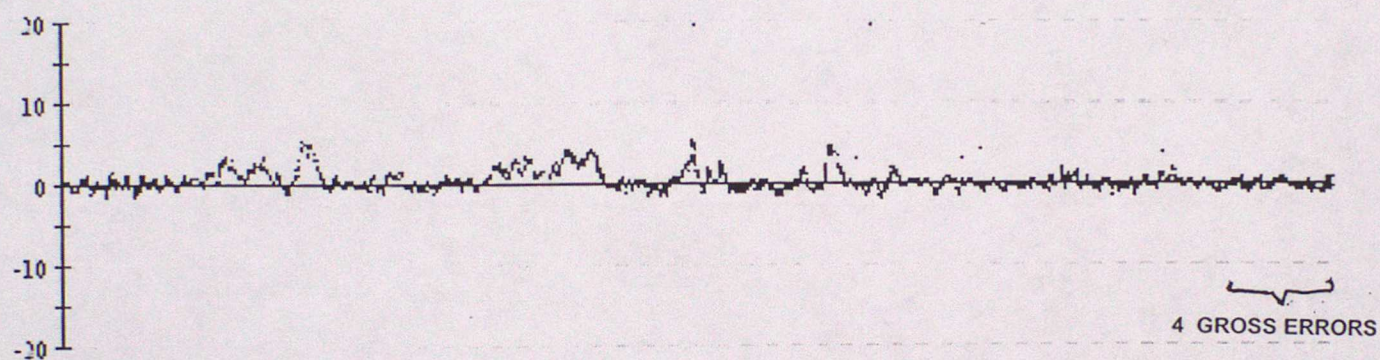


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

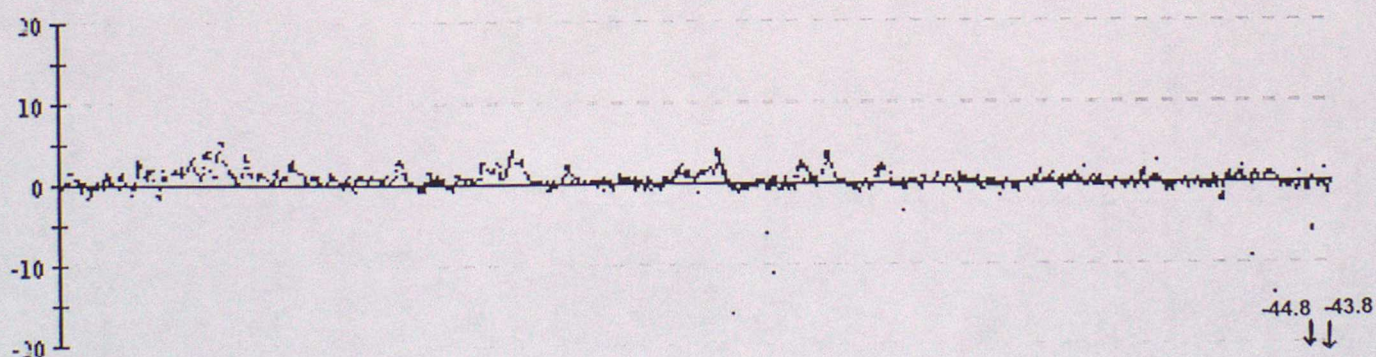
64550 Air Temperature



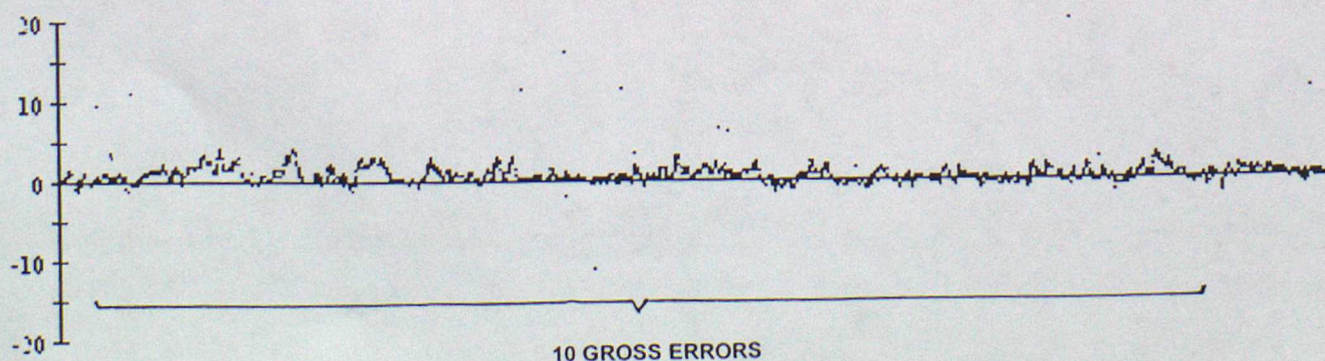
65516 Air Temperature



65581 Air Temperature

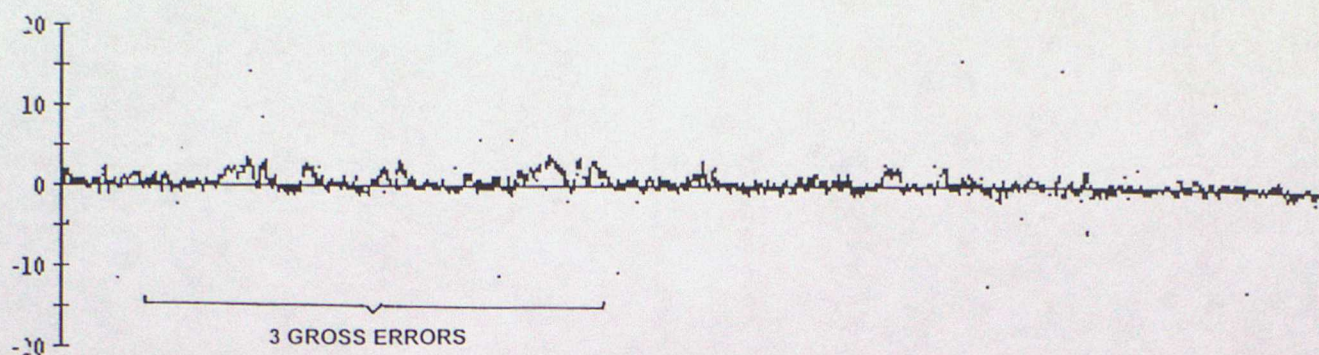


65595 Air Temperature

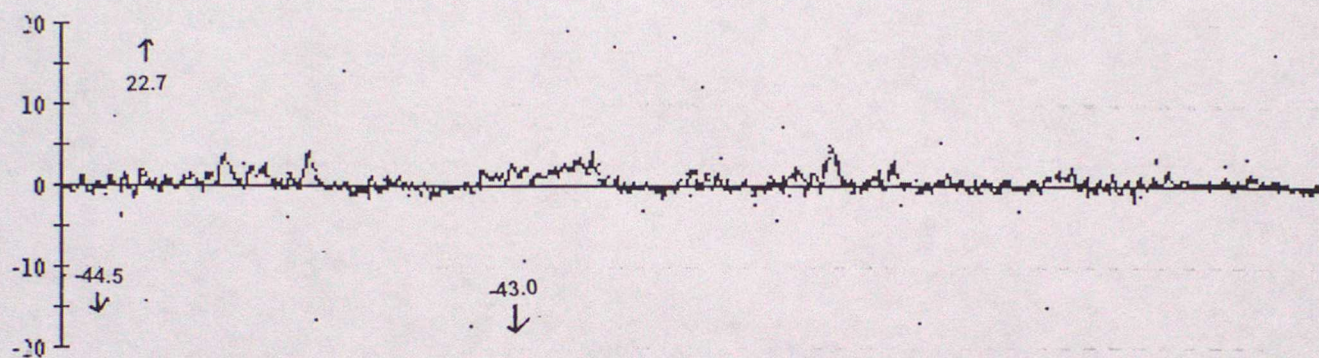


Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

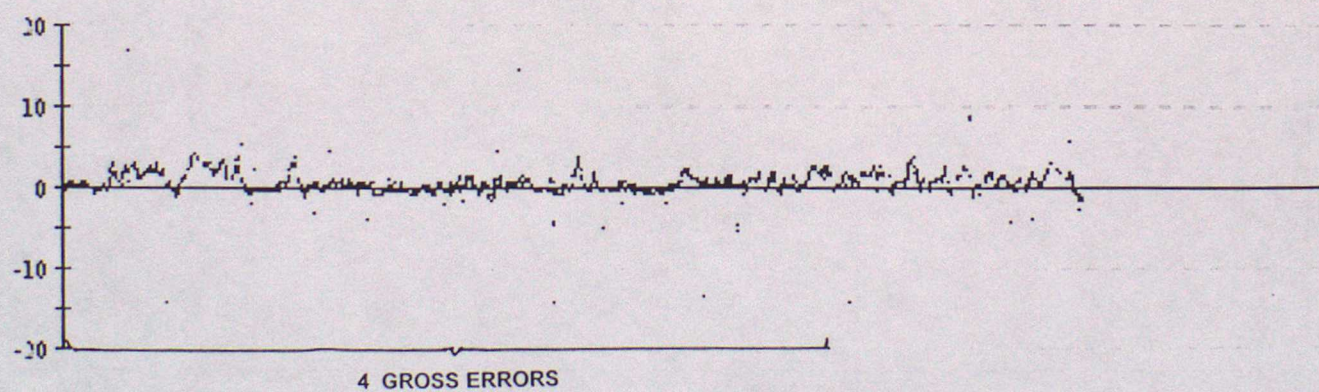
65602 Air Temperature



65662 Air Temperature



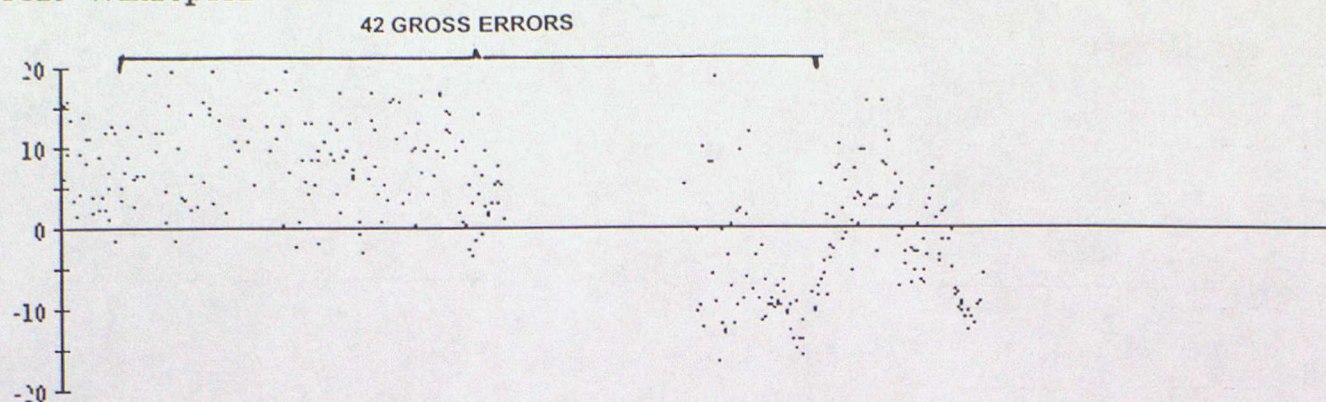
65663 Air Temperature



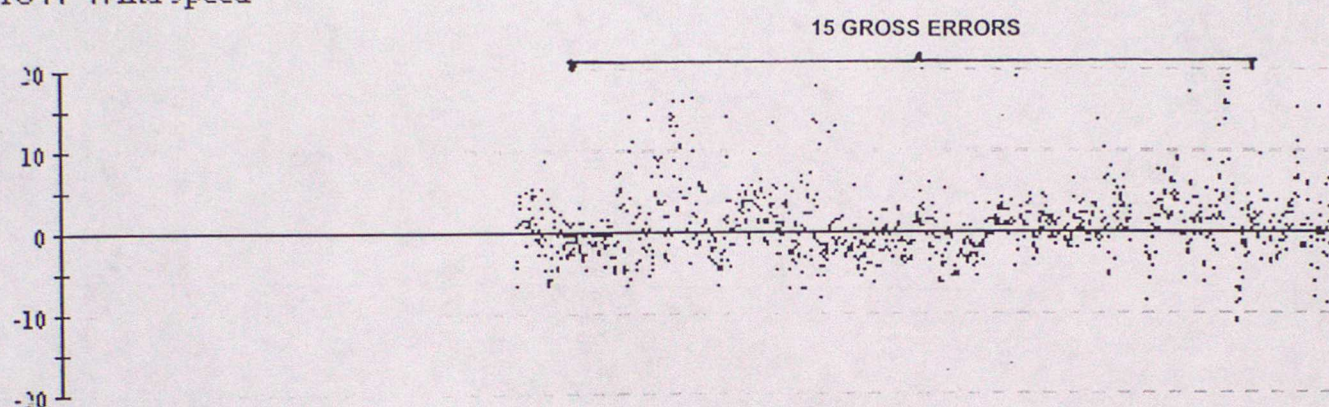
ANNEX D - TIME SERIES PLOTS OF WIND SPEED

Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

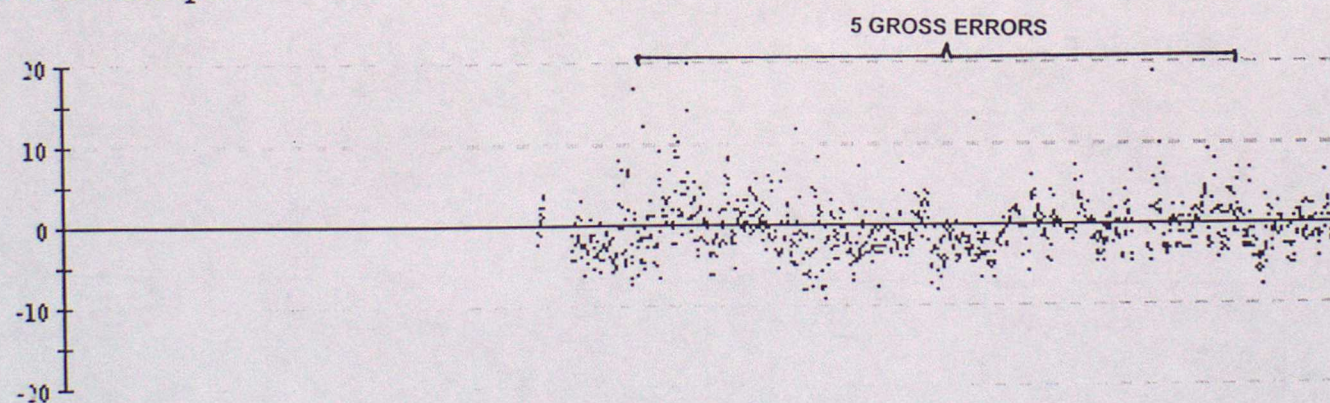
41639 Wind speed



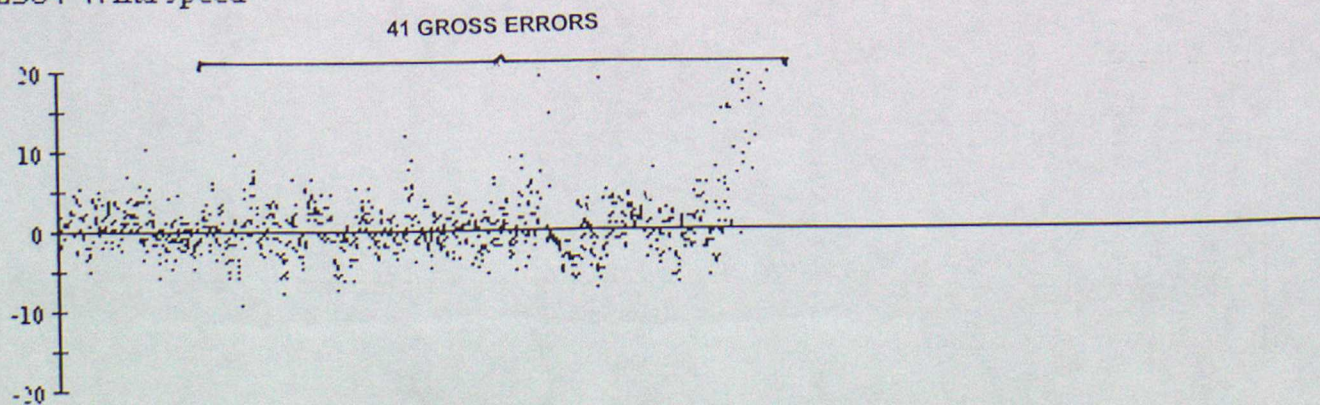
41647 Wind speed



41652 Wind speed



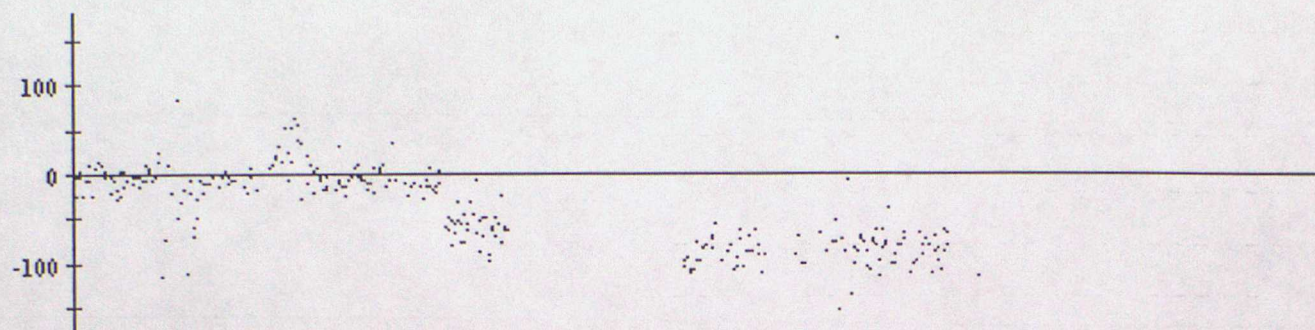
62504 Wind speed



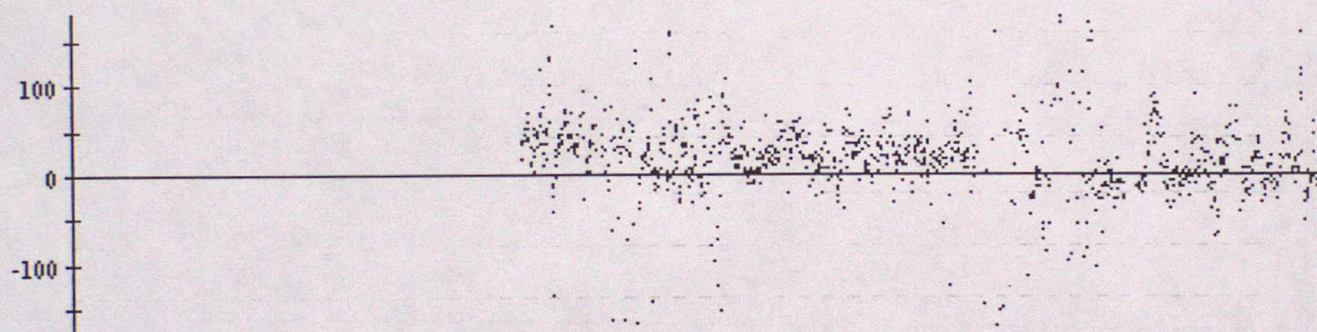
ANNEX E - TIME SERIES PLOTS OF WIND DIRECTION

Data from 00z on 01/07/2001 to 23z on 30/09/2001 (OBS - Background field)

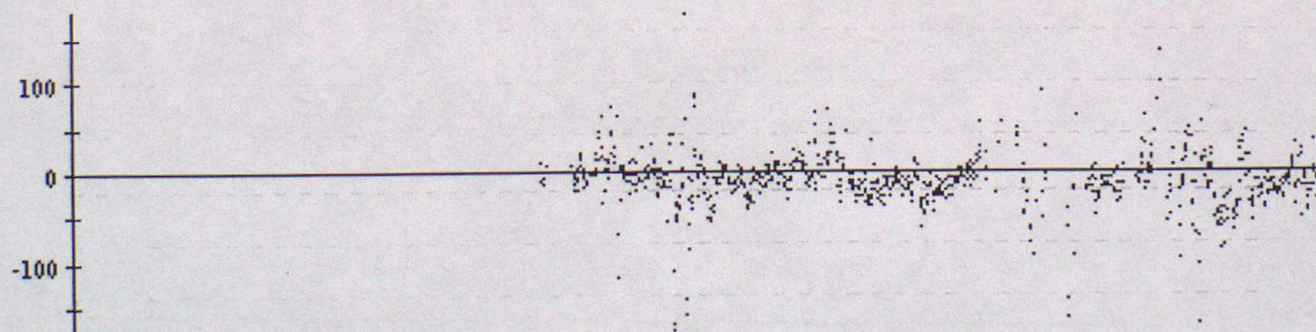
41639 Wind direction



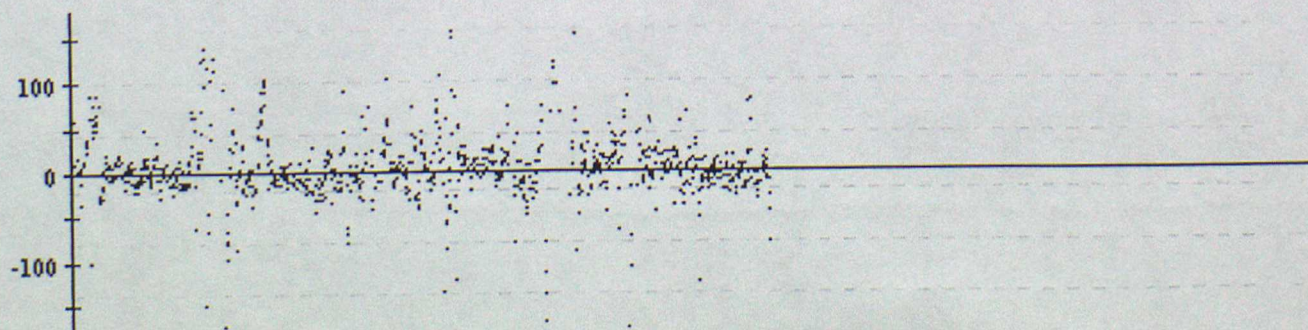
41647 Wind direction



41652 Wind direction



62504 Wind direction



ANNEX F - SUMMARY TABLE OF OPERATIONAL DRIFTING BUOYS

WMO No.	Argos No.	Owner	Elements Reported						Reporting Period
			PP	Pt	TT	FF	DD	SST	
41505	26968	UK	*					*	01/07 - 30/09
41523	28840	UK	*					*	01/07 - 30/09
41571	18905	UK	*					*	01/07 - 15/07
41639	28846	US	*			*	*	*	01/07 - 30/09
41644	28853	US	*					*	01/07 - 30/09
41647	16325	US	*	*		*	*	*	02/08 - 30/09
41652	12999	US	*	*		*	*	*	04/08 - 30/09
44546	25374	UK	*	*				*	01/07 - 30/09
44548	27617	UK	*	*				*	01/07 - 30/09
44549	22648	UK	*	*				*	01/07 - 30/09
44550	23703	UK	*	*				*	01/07 - 30/09
44610	12734	F	*	*				*	01/07 - 12/08
44611	27616	UK	*	*				*	01/07 - 13/08
44612	27619	UK	*	*				*	01/07 - 30/09
44613	28467	UK	*	*	*				01/07 - 30/09
44616	17149	UK	*	*				*	01/07 - 30/09
44620	27622	UK	*	*				*	01/07 - 13/09
44621	17150	UK	*	*				*	01/07 - 30/09
44623	27624	UK	*	*				*	01/07 - 30/09
44624	17151	UK	*	*				*	01/07 - 30/09
44625	17153	UK	*	*				*	01/07 - 30/09
44627	13698	NL	*	*				*	05/07 - 30/09
44721	18702	UK	*	*				*	01/07 - 30/09
44722	18706	UK	*	*				*	01/07 - 30/09
44723	?	?	*	*				*	11/09 - 30/09
44725	27923	UK	*	*				*	01/07 - 02/09
44726	?	?	*	*				*	10/09 - 30/09
44729	25375	UK	*	*				*	01/07 - 30/09
44761	27615	UK	*	*				*	01/07 - 30/09
44762	19073	UK	*	*				*	01/07 - 09/08
44765	28466	UK	*	*	*				01/07 - 30/09
44770	21627	UK	*	*				*	01/07 - 08/07
44771	25377	UK	*	*				*	01/07 - 30/09
44774	12286	UK	*	*	*			*	01/07 - 13/07
44775	25372	UK	*	*				*	01/07 - 30/09
44776	25371	UK	*	*				*	01/07 - 30/09

ANNEX F - CONT'd

[illegible]

